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THE BOSTON

Medical and Surgical JOURNAL

OFFICIAL ORGAN of THE MASSACHUSETTS MEDICAL SOCIETY and of THE NEW ENGLAND SURGICAL SOCIETY

$5 per Annum, 15c per copy
Vol. CLXXXIII, No. 21

THURSDAY, NOVEMBER 18, 1920

Published weekly in Boston, at 126 Massachusetts Avenue

CONTENTS

ADDRESS

LESSONS FROM THE SELECTIVE MILITARY DRAFT. *By Oliver H. Howe, M.D.*, Cohasset, Mass.

ORIGINAL ARTICLE

TUBERCULOSIS AND INFLUENZA. *By John B. Hawes, 2nd, M.D.*, Boston.

CLINICAL DEPARTMENT

TRAUMATIC SPLEENS. *By Francis Freeman Henderson, M.D.*, Boston.

RUPTURED UTERUS IN PREVIOUSLY CAESAREANIZED PATIENT. *By Charles J. Kickham, M.D.*, Boston.

EDITORIAL

SMOKING AND FATIGUE.

For complete table of contents, see first text page.

THE NEXT ANNUAL MEETING OF THE MASSACHUSETTS MEDICAL SOCIETY WILL BE HELD IN BOSTON, TUESDAY, MAY 31, AND WEDNESDAY, JUNE 1, 1921.

26 Clinics

In the October Number of the Surgical Clinics of Chicago

Clinic of Drs. E. Wyllys and Edmund Andrews and Dr. Charles Louis Mix, *St. Luke's Hospital*
"Dumping Stomach" and Other Results of Gastrojejunostomy:

Clinic of Dr. David C. Straus, *Cook County Hospital*
Perinephritic Abscess—Tuberculosis of Kidney—Subscapular Nephrectomy.

Clinic of Drs. Arthur Dean Bevan and L. C. Gatewood, *Presbyterian Hospital*
Mesenteric Fibroma.

Clinic of Dr. Arthur Dean Bevan, *Presbyterian Hospital*
Dislocation of Patellae.

Clinic of Dr. Golder L. McWhorter, *Presbyterian Hospital*
Salpingitis with Lateral Lumbovertebral Pain.

Clinic of Dr. Richard J. Tivnen, *Mercy Hospital*
Congenital Cataract Binocular; Large Thymus Gland.
Endothelioma of Orbit; Total Symblepharon.
Extradural Abscess; Otitis Media Purulenta Chronica.

Clinic of Dr. Kellogg Speed, *Cook County Hospital*
Burns.

Clinic of Dr. Carl Beck, *North Chicago Hospital*
Suture of Nerves and Tendons of the Wrist.

Clinic of Dr. Alfred A. Strauss, *Michael Reese Hospital*
Various Methods of Blood Transfusion.

Clinic of Dr. Albert J. Ochsner, *Augustana Hospital*
Rupture of Gall-Bladder in Duodenum.

Clinic of Dr. Daniel N. Eisendrath, *Michael Reese Hospital*
Infections of the Kidney.

Clinic of Dr. Frederick G. Dyas, *Cook County Hospital*
Compound Fracture of Femur in a Child.
Cholelithiasis with Biliary Fistula Discharging at the Umbilicus.
Tetanus Following a Contused and Lacerated Wound of Leg.

Clinic of Dr. Allen B. Kanaval, *Wesley Memorial Hospital*
Hematuria.

Clinic of Dr. Edward Louis Moorhead, *Mercy Hospital*
Chronic Ulcer of Leg Treated by Skin-Grafting.
Multiple Tumors of the Thyroid.
Chronic Duodenal Ulcer; Slow Perforation with Formation of Extensive Adhesions to Gall-Bladder, Liver and Hepatic Flexure of Colon.

Clinic of Dr. George E. Shambaugh, *Presbyterian Hospital*
Bilateral Destruction of the Labyrinth as a Sequel of Chronic Suppurative Otitis Media.
Impairment of Hearing Due to Fracture at Base of Skull.
Cerebral Nerve Deafness.
Aural Vertigo Due to Degeneration of Vestibular Nerve.

Clinic of Dr. Edward Lyman Cornell, *Chicago Lying-in*
Cesarean Section for Placenta Praevia.

Contribution of Dr. Roy L. Moodie, *University of Illinois*
Surgery and Disease Among the Pre-Columbian Indians.

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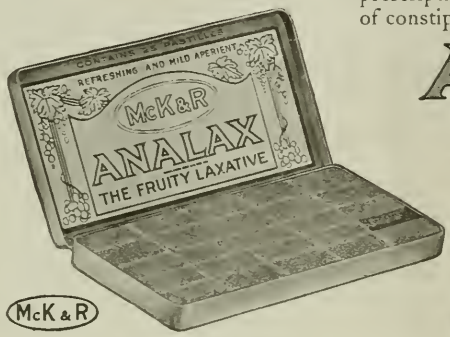

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Current Literature Department

ABSTRACTORS.

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JOHN B. HAWES, 2D, M.D. LESLEY H. SPOONER, M.D.
EDWARD H. RISLEY, M.D. WILDER TILESTON, M.D.

MEDICINE.

THE HEART AND ITS RHYTHM IN ACUTE RHEUMATISM.

Of late years an increasingly greater attention has been paid to the condition of the myocardium in heart disease, and by means of the newer methods a positive diagnosis of myocarditis is now often possible, where prevously it was little more than a guess. PARKINSON, GOSSE and GUNSON (*Quarterly Journal of Medicine*, July, 1920) present a study of 50 cases of acute articular rheumatism by means of polygraphic and electrocardiographic methods. Tracings were taken daily from the time of admission to the hospital, so that the earliest signs of heart trouble could be discovered.

Bradycardia during convalescence was not uncommon, the rate being as low as 38 in one instance, with a normal rhythm. The pulse rate always rose as soon as the patient was allowed to get up.

Sinus arrhythmia was observed at some time in 94 per cent. of the cases. It was found associated with various organic lesions of the heart muscle and valves, both acute and chronic, so that the presence of this form of irregularity does *not* justify the assumption (as suggested by Mackenzie) that the cardiac muscle is intact.

Premature contractions were noted in ten cases, in seven of which they were of the auricular variety. (In conditions other than rheumatism the ventricular extrasystole is the more common of the two.) The cases with auricular extrasystoles presented a good deal of interest, being associated with signs of involvement of the myocardium. Thus in one case they were associated with transient pulsus alternans and a heart rate of 150; in two cases the A'-C" interval (interval between the auricular and ventricular contractions of the premature beat) was greatly prolonged. One of the latter cases had shown heart block recently, and in the other a paroxysm of auricular flutter was associated. These facts, together with the frequency of fibrillation and flutter as a sequel to acute rheumatism, lead the authors to the conclusion that in this disease the occurrence of auricular extrasystoles is a sign of involvement of the myocardium.

Heart-block occurred frequently (in 30 per cent.) and was always transient; in eleven it was revealed solely by prolongation of the conduction time. In four there were dropped beats. It came on during or shortly after the febrile period, and lasted from one to eighteen days. It was never productive of symptoms. The heart-block bore no relation to the taking of digitalis, nor to salicylates. The authors conclude that the occurrence of heart-block in rheumatism indicates involvement of the myocardium, basing their belief on the finding by others of acute lesions of the A-V bundle in such cases, and in the well-known fact that widespread inflammatory foci occur in the heart muscle in this disease. The transient character of the block can be understood in the assumption of pressure from edema, etc., and subsequent absorption of the exudate.

Ventricular automatism, or escape of the ventricle was noted in three cases; no instances of fibrillation or paroxysmal tachycardia were encountered, though both of these have been reported in the literature.

(Continued on page vi.)

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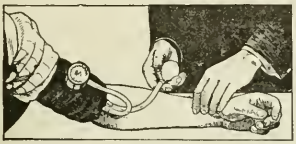

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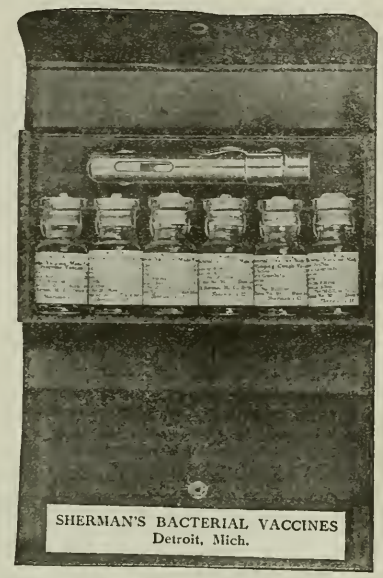

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(Continued from page iv.)

The authors found but little variation in the size of the heart during the progress of the disease, and no relationship between its size and the onset of endocardial murmurs, heart block or premature contracture. [W. T.]

PATHOLOGY.

A Study of the Hemodynamic Reactions of the Cerebrospinal Fluid and Hypophyseal Extracts.

Jacobson (*Johns Hopkins Hosp. Bull.*, June, 1920), in an elaborate article, presents the results of his investigations on hemodynamic reactions as studied, and concludes as follows:

1. Cerebrospinal fluid from human and bovine sources in concentration gives physiological reactions identical with those obtained from the injection of various tissue extracts, effects most probably due to the presence of histamine.

2. There is no definite evidence of the presence of a pressor substance in the cerebrospinal fluid suggestive of any posterior lobe secretion. It seems rather improbable that the pituitary gland gives its secretion into the ventricles or into the cerebrospinal fluid.

3. All pituitary gland extracts show marked variability, so far as their responses are concerned, on intravenous injection. They all show a depressor effect common to the tissue extract. In general it may be said:

(*a*) Anterior lobe exhibits depressor effect mainly.

(*b*) Posterior lobe a moderate depressor followed by a specific pressor effect.

(*c*) Pars intermedia has a small depressor, followed by a pressor effect.

(*d*) Whole gland shows a neutralization of the depressor and pressor effects.

(*e*) The posterior lobe secretion, if it is a specific secretion, is most probably produced in the pars intermedia and finds its way into the pars nervosa.

4. The posterior lobe extract on intravenous injections appears to have an antidiuretic rather than a diuretic effect.

5. Glycosuria is produced by intravenous injection of posterior lobe extract in a number of cases. This glycogenic effect is more marked in the rabbit. [J. B. H.]

Healing of End-to-End Intestinal Anastomoses with Especial Reference to the Regeneration of the Blood Vessels.

Sabin, F. R. (*Johns Hopkins Hosp. Bull.*, September, 1920), in a paper profusely and excellently illustrated, concludes as a result of his investigations on the healing of end-to-end intestinal anastomoses as follows:

In these studies it has been shown that in the end-to-end anastomosis of intestine the infolding of the wall does not produce any blocking of the lumen, that the infolding parts are viable, and that the mucosa continues to function in absorption, but that there is a very great increase in the number of cells secreting mucus. Ultimately this change in functional adaptation is brought back to the normal by the death of the mucus cells and the regeneration of the mucosa.

It has been shown that whenever the muscularis mucosae is cut or ruptured without the occurrence of an infection, the glands of the mucosa invade the submucosa, often forming cysts there, but that these glands are subsequently restored to the mucosa by the regeneration of the muscularis mucosae which makes a barrier for the glands.

For the smooth muscle, the histological technique

(Continued on page viii.)

Adrenalin in Medicine

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In those cases marked by extremely profound and dangerous shock or collapse the intravenous method may prove too slow or ineffective. Recourse should then be had to the procedure described by Crile and called centripetal arterial transfusion. Briefly it consists in the insertion into an artery of a cannula directed *toward* the heart. Into the rubber tubing which is attached to the cannula 15 to 30 minims of Adrenalin 1:1000 is injected as soon as the saline infusion begins.

The effect of this is to bring the Adrenalin immediately into contact with the larger arteries and the heart. Sometimes, even in apparent death, the heart will resume its contractions, thereby distributing the Adrenalin through the arterial system and accomplishing the object of this heroic measure—resuscitation and elevation of the blood pressure.

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(Continued from page vi.)

shows that its cells are very sensitive to injury and that it is hardly possible to put a clamp on smooth muscle without producing changes that can be recognized under the microscope. It seems to me a very important point that our series of end-to-end anastomoses have produced no dilatation of the wall of the intestine and hence no damage to the musculature sufficient to make it thin out. All of the cases show gaps in the musculature where the stitches pull through, but, though this damage is inevitable, the fact that the muscle is syncytical, and that the stitches are limited to six points around the lumen of the gut, seems to limit the amount of destruction to the musculature more than in the end-to-side form of the operation.

In the regeneration of the vascular system it has been shown that the regeneration of the vessels is limited to specific areas where the growth of new vessels is preceded by a change in the endothelium of the old vessels which may be characterized as a return of the endothelium to the original angioblastic type involving a very great multiplication of the endothelial nuclei, and that, from these transformed vessels solid masses of angioblasts like those of the embryo, through liquefaction of the cytoplasm, become new vessels, first capillaries, then arteries and veins. [J. B. H.]

A STUDY OF THE BEHAVIOR OF SYPHILITIC AND NORMAL SERA TOWARD CERTAIN COLLOIDAL SOLUTIONS.

MASON, V. R. (*Johns Hopkins Hosp. Bull.*, July, 1920) concludes from his studies of the behavior of syphilitic and normal sera toward certain colloidal solutions as follows:

1. Syphilitic sera can be shown to differ from normal in certain physical properties.
2. This physical difference is possibly of fundamental importance in complement fixation reactions, although at present its relation to immunity is not clear.
3. The Wassermann reaction and the flocculation reaction closely parallel each other. [J. B. H.]

GYNECOLOGY.

UTERINE PROLAPSE AND ITS TREATMENT.

ROY, D. W. (*Practitioner*, September, 1920) discusses the treatment of uterine prolapse. The requirements of an operation for this condition are:

1. To remove redundant and stretched anterior vaginal wall and restore its normal tension and direction.
2. To restore the bladder to its position behind the pubes, and to retain it there by bringing together the paravesical and paravaginal tissue below it.
3. To carry the cervix and vaginal fornices upward and backward by drawing forward, and suturing in front of the cervix, the lateral portions of the parametrium. This restores the normal axis of the upper end of the vagina.
4. To bring nearer together the anterior pillars of the levatores and below the bladder, and to contract the pelvic floor aperture by bringing them together in front of the anus and behind the vagina, so lessening the pelvic floor aperture both from before back and from side to side.
5. To rebuild the perineum, which with (4) restores the normal axis of the lower part of the vagina.
6. To tighten up the superficial muscles and fasciae supporting the urethra and base of the bladder, if they have given away.

He then discusses the means and methods of carrying out these requirements. [J. B. H.]

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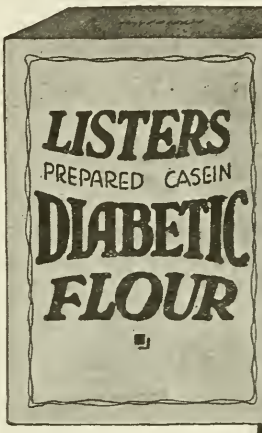

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MELLIN'S FOOD COMPANY, BOSTON, MASS.

The Boston Medical and Surgical Journal

TABLE OF CONTENTS

November 18, 1920

ADDRESS

LESSONS FROM THE SELECTIVE MILITARY DRAFT. *By Oliver H. Howe, M.D.*, Cohasset, Mass. 589

ORIGINAL ARTICLE

TUBERCULOSIS AND INFLUENZA. *By John B. Hawes, 2nd, M.D.*, Boston. 596

CLINICAL DEPARTMENT

TRAUMATIC SPLEENS, REPORT OF CASE HISTORIES WITH DISCUSSION AND SUMMARY. *By Francis Freeman Henderson, M.D.*, Boston. 599

RUPTURED UTERUS IN PREVIOUSLY CAESAREANIZED PATIENT; WITH REPORT OF CASE WHERE FOETUS REMAINED INTACT WITHIN MEMBRANES FOLLOWING RUPTURE. *By Charles J. Kickham, M.D.*, Boston. 602

BOOK REVIEWS

Manual of Psychiatry. Edited by Aaron J. Rosanoff, M.D. .. 605
Manual of Emergencies. By J. Snowman, M.D. 605

EDITORIALS

SMOKING AND FATIGUE. 606
MATERNITY AID. 608
MEDICAL NOTES. 609

CORRESPONDENCE

PHYSICIANS AND LEGISLATION. *Samuel B. Woodward.* 615
MATERNITY AID. *Charles Malone.* 616
INDUSTRIAL EXAMINATION OF CHILDREN. *George W. Ellison.* .. 616

OBITUARY

FREDERIC HENRY GERRISH, M.D., PORTLAND, ME. (1845-1920). 611

Address.

LESSONS FROM THE SELECTIVE MILITARY DRAFT.

BY OLIVER H. HOWE, M.D., COHASSET, MASS.

THE selective military draft was in many ways a wonderful revelation. It showed, throughout our nation, a respect for authority, a submission to law and a patriotism far greater than we had reason to expect. This is all the more wonderful because of the impression that many of our young men are growing up without sufficient restraint, with too marked individualism and too little respect for authority. Dread of the consequences of war was present, but flagrant cases of evasion were not frequent; while on the other hand, we found a quiet courage, a willingness to serve and often an enthusiasm and passionate patriotism in instances where we did not expect it. To these must be added the fact that a fair proportion of the aliens did not claim exemption on that account, but were willing to fight for their adopted country.

Compared with conditions during the Civil War, when frantic search was made to secure substitutes, we may well be proud of the type of public sentiment revealed during the draft. Probably every draft officer had a lingering fear that some friend or acquaintance would try to draw on his sympathies or attempt to use improper influence upon him. Such was not the case in my experience. Numbers of persons made inquiries of me in order to ascertain the proper procedure to comply with the law, but not one suggested any evasion or attempted to influence my decision.

The absolute democracy of the draft examination was remarkable. The bank cashier, the millionaire's son, the mechanic and the laborer undressed side by side and were upon the same footing. Each had to appear on the day appointed, wearily await his turn and abide by the decision made. In view of the facts that the accommodations of draft headquarters were of an improvised nature and that the work was usually done under pressure and with scant time for courtesy, the infrequency of complaints was noteworthy. The Government did not choose army officers or officials for this draft work, but appointed civilians, many of whom had never before served in any official capacity. Perhaps the draft measures were more readily accepted by the public because local men were everywhere in charge of it. The patriotic service and fine type of integrity manifested by members of local, district, and medical advisory boards, is a matter of satisfaction.

* Read before the Norfolk South District Medical Society, April 1, 1920.

To lawyers, business men and doctors alike, this is creditable. The work always involved inconvenience and sacrifice, but was cheerfully performed by all and in so impartial a manner that charges of collusion or corruption are practically unknown.

To the physicians it was a valuable experience in systematic physical examination. It developed expeditious methods and furnished training in prompt diagnosis and conclusions. The fact that several physicians worked together gave opportunity for consultation and comparison of views. The medical advisory boards added the judgment of specialists and decided many doubtful cases.

The draft officer was many times overwhelmed with puzzling detail, yet was led to see in the whole conception a wonderfully planned machine and was filled with admiration that it could have been conceived and put in operation so quickly. The Act of Congress was passed May 18, 1917, and on June 5, only 18 days later, the whole organization of registration, involving 125,000 members and assistants, was in operation and all men in the United States between the ages of 21 and 30, about 10,000,000 in number, were registered in one day. The appointment of local and district boards was completed by June 18, only one month after the Act was passed by Congress! The order of draft numbers was evolved by lottery on July 20, and on August 6 physical examinations were begun in the division in which I served. The first Massachusetts men were put into the Army through the draft on September 3, but the Provost Marshal states in his report that some were inducted elsewhere as early as July 30.

Changes in the regulations and in the standards of physical examination were made from time to time, but all with military needs in view and to the end of perfecting the scheme. One year from the first registration, another was held, to include those who had recently attained the age of 21. A supplementary registration of the same kind was held on August 24, 1918, and on September 12, 1918, a third registration included all unregistered men between the ages of 18 and 45, both inclusive. In all 24,234,021 men were registered.

Meantime a simplification of printed forms had been made and about December 15, 1917, registrants were required to file questionnaires giving full information about their social and occupational status. These were examined and classified by the local boards. This method thenceforward limited the physical examinations to Class A, comprising single men, without encumbrances or exempting occupations; and saved much valuable time. It moreover considered the individual in all his relations to the community and served to place him in the most useful relation to the Government, whether that might be to make a soldier of him or retain him as a munition worker, food producer, or skilled artisan of one kind or another, or to allow him to support and educate his family for the good of the nation. The underlying idea of the whole draft system was to yield the greatest military return with the least disturbance of civil activity. Occupations were further classified into essential and non-essential as related to war. Of particular interest is the famous "work or fight" order, which would have had marked results if the war had lasted longer. The questionnaire furnished the ideal method and might well have been adopted from the start. The original draft plan included only the Army, but was later enlarged, so as to furnish recruits for the Navy also. Many men had anticipated the draft and had voluntarily enlisted in the Army or Navy. These men enlisted from commendable and patriotic motives, but because of their enlistment the draft plan was never all inclusive. Doubtless many of these volunteers would have been of greater service to the Government had they remained as expert chemists or machinists, or wherever placed after a careful consideration of their aptitudes and abilities. In Massachusetts 52% of the quota called for by the draft had been already filled by voluntary enlistments. Portland, Maine, and Portland, Oregon, had each sent so many men to the war that their quotas were already filled and these cities required no draft.

The addition of a classification for "special and limited service" allowed many men with defects to be assigned to serve the Government in clerical or occupational capacities and the classification of "remediable defects" enabled many men to enter the fighting service after the Government had provided for them curative surgical operations or the requisite dental work.

As to real malingering, I saw very little of it. Some men tried to exaggerate dyspeptic, rheumatic, or nervous symptoms. Asthma was never proven without a physician's affidavit.

and some shallow claims were made for it by the registrants. Pretense of deafness was readily detected by the examiner, but defective vision was more easily simulated. All doubtful cases of the latter were referred to an oculist. In the latter part of the work we had the assistance of the medical advisory boards, composed of the various specialists and therefore did not have to reject so many men, but could more fully give the Government the benefit of the doubt. One man of robust physique so managed his breathing as to fail in the required chest expansion. After repeated trials in the presence of the whole board, we promptly certified him as qualified for military duty.

Most of the attempts of evasion in our experience came through alleged dependency or occupation. Husbands giving only slender support to wives and families, sons really supported by their "aged and infirm parents," or claiming fully to support them when there were other brothers equally able to maintain them, were common and obliged us constantly to be on our guard. To these were added men who married to escape the draft. Agricultural and industrial claims required close scrutiny and often a visit to the farm or factory by the Government claim agent. Incomplete, unsatisfactory and misleading answers were often given in the questionnaires, but even in these it was rare that downright perjury could be proved.

Having briefly outlined the main features of the draft plan, it is of particular value to us as physicians to consider it in its health relations and to draw from it various lessons.

There were examined physically at local boards about 2,510,000 men between the ages of 21 and 30 years. Of these 46.8% were found to have defects and 730,000, or 29.1%, were rejected on physical grounds. Additional physical defects discovered or emphasized in mobilization camps, resulting in the discharge of the men, would perhaps increase this to nearly 35%—a rejection of more than one man out of every three. It is a reproach to a nation to have such a record of its men during the period of their greatest vigor, especially when most of these defects could have been prevented or cured if they had received early treatment.

There are, however, several circumstances which serve to modify these percentages, so that the real condition is not quite so bad as it seems. The first of these relates to the large number of voluntary enlistments—a number amounting in Massachusetts to 52% of the quota of the first draft. These men were healthy and without marked defects or they could not have been retained in the Army or Navy. The body of men remaining and subject to the draft did not, therefore, represent the normal man-power of those ages, for the reason that a considerable number of its sound and most enterprising men had been combed out in advance by voluntary enlistment. Again, the rigorous standards required for war efficiency would lead to rejection of a few defects that would not materially interfere with civil pursuits. Stature less than 60 inches, loss of sight in one eye, dependence upon eye glasses or upon artificial teeth, would not incapacitate the individual for civil occupations.

The number of defects was far greater than appears in any reports, for the reason that it was not uncommon for a man to have more than one serious defect, while rejections in these cases were often made naming one defect only. A man examined by me was deficient in height and weight, had defective vision and teeth, had heart disease and hernia. He also had deformity of one arm and was mentally deficient. We must also consider the numerous disabilities in men accepted for the Army, in whom the defects were not present in sufficient degree to cause rejection. Although Army surgeons estimate that 90% of these were not of such a nature as to interfere seriously with occupations in civil life, there would doubtless be some restriction or limitation in the occupation chosen, and nearly all were caused by some form of neglect. We should not be content with making the best of a bad thing, but should aim to have strong citizens, who can follow the occupation most suitable without physical handicap.

Personal observation during the draft and subsequent study of statistics impress me with the fact that the physical condition of American manhood is far below the standard it ought to represent. Statistics vary a great deal in different parts of the country, but for the sake of studying our local conditions, I will analyze the cases of 233 men rejected physically by me in the first draft. The causes of rejection were as follows:

Defective teeth	45
Defective vision	33
Hernia	29
Underweight	27
Flat-foot and other deformities of feet	22
Other deformities and losses	16
Organic heart disease	15
Otitis	6
Varicose veins	6
Deficient chest measurement, Overweight, Deafness, Loss of one eye, Underheight, Varicocele	5 each
Epilepsy	2
Undescended testicle	2

Considering, first, defective teeth, which was the most prominent cause of these rejections and constituted 18.3% of the whole number, let us inquire as to the cause. For the first 15 years of my practice, there was no dentist in the town. The bulk of the population had not formed the habit of going to a dentist and many of them were averse to doing so. A common axiom with the parent when a child complained of toothache was: "Does it ache? Have it out." Physicians extracted many teeth, usually for the benefit of the patient, but when comparatively sound teeth were desired removed, the urgent advice to go to the dentist and have treatment to save the tooth in many cases met with a flat refusal. I have sometimes reluctantly and under protest, extracted teeth after ineffectually begging the parents to have them saved. Neglect is most disastrous in the case of the six-year molars, which come before the parents are aware and often decay beyond recovery before they are given any recognition. As nine of the ten towns included in my draft division are small, the lack of dentists, and lack of dental education of parents undoubtedly prevailed through all these towns and the fruit of this neglect was seen in the draft.

Aside from the pain and loss of time caused by toothache and jaw abscesses, decayed teeth lead to imperfect mastication of food, poor assimilation and nutrition and the ills of various dyspeptic affections. Moreover, abscess cavities connected with the roots of the teeth are common and serve as centers of focal infection, which may be the direct cause of various rheumatic and arthritic affections. They may also be the source of boils and carbuncles and any acute process like otitis or appendicitis will more likely become purulent because of focal infection.

The draft regulations regarding the teeth were later made less stringent and provision was made for dental repair by the Government in order to fit some of these men for service. A certain proportion of rejections for teeth were made on account of removable plates, which could not be replaced in war if broken or lost. These men, of course, were not unfitted for civil life, but still bear the stigma of probably having lost their natural teeth unnecessarily. New England, New York and New Jersey have a far greater proportion of defective teeth than any other part of the country. A comparative freedom from it is found in the prairie states and those to the southwest. It is more frequent in cities than in rural districts and it is not unlikely that the old English stock that settled New England and the French Canadians who have colonized within it both have a racial lack of resistance to dental caries.

Defective eyesight formed 13¾% of these rejections. A large proportion of these wore glasses and were not thereby badly off as civilians. The tests, however, had to be made with the unaided eyes, for a soldier dependent on glasses would become useless if they were broken or lost. Doubtless some of these may have suffered from neglect or misuse of the eyes in earlier life. Here again New England and some of the Middle States show an excess of defective vision, possibly due to close use of the eyes in the large cities and perhaps owing to a constitutional tendency to myopia.

Underweight constituting 11¼% represents a lack of nutrition and of physical power. Perhaps a few of them had recently recovered from illness, but the majority were no doubt associated with some special cause, in manner of life, occupation or habits, which might, on investigation, be remedied. This proportion of weaklings in this land of plenty is a reproach to our civilization. New England has a large excess of underweight, but the greatest areas of it are in Tennessee, Kentucky and adjoining states, ascribed to hookworm disease.

Hernia formed about 13% of our rejections. Our early regulations obliged us to reject them all, but later we were allowed to accept all small, easily reducible hernias and all others were referred to the medical advisory board. It was the intention of the Government to operate upon many of these and put the men into military service. In many cases the registrants

did not know they had hernia and the draft was useful in discovering the disability.

Flat foot, with other deformities of the foot, was the cause of 9% of our rejections. This is larger than was obtained in our Board in the later drafts, when rejection was limited to cases of functional impairment of the feet. Flat foot in its various degrees is extremely common and in all the mobilization camps was found to exist eight times as frequently as any other defect. The slighter degrees cause no inconvenience and curiously this is true of a few of the more pronounced cases. Flat foot, however, is a very important cause of disability and impairs the freedom, efficiency and health of many people in civil life. Its causes are faulty habits of standing and walking and the wearing of improper shoes. When the knee-joint stands vertically over the center of the ankle, the weight rests upon the ball, heel and the strong outer border of the foot. If the knee stands a little outside the vertical, it accentuates and confirms this correct position. If, however, the knee stands inside the line of the ankle, the inner part of the sole comes nearer the ground, resulting in time in a rolling inwards of the astragalus and a lowering of the internal malleolus. The exact condition of one's weight-bearing surfaces is graphically shown by stepping on a floor with the wet foot.

Unfortunately shoe lasts give the same height across the metatarsals with scant room for the large first metatarsal. To ease this condition, the wearer of the boot turns the toe outward, bringing the foot into the position of eversion and predisposing to flat foot. The remedy consists in ample width and fulness below the instep or in a shoe that laces far down toward the toe.

Most of us were taught in childhood to "toe out." The Indians, however, always walked toeing straight ahead and their instinctive gait proves to be the correct one. It is a curious fact that soldiers are still required to stand with toes widely divergent during their drills, thus perpetuating a position of the feet that conduces to flat foot.

The greater part of cases of flat foot show no bony structural alteration and can be cured by having the patient learn to stand and walk correctly and by proper shoes and a few simple exercises. Drs. Bradford and Cotton both consider plates useful in the early part of the treatment, but find they can be discontinued when proper shoes are worn and the muscles become properly trained. Raising the inner side of the sole and heel of the shoe is useful in the same way as plates.

Other deformities and losses constitute 6% of our rejections. These included stiff knee, ankle, wrist and elbow joints and loss of limbs or fingers. These were due mostly to accidents, infectious inflammation, to tuberculosis and to rheumatic affections, many of them, no doubt, preventable or the result of unskillful treatment.

About 6% of our rejections were due to so-called organic heart disease. These we identified by a systolic murmur, loudest at the apex and transmitted to the axilla and back. We had to reject all who showed these signs in the first draft, because the regulations then in force required us to do so. Later a change was made, embodying the following sentence: "Systolic murmurs unassociated with enlargement of the heart, alteration of the first sound, accentuation of the pulmonic second sound or abnormal response to exercise, may be considered without significance." Also, "All diastolic murmurs at apex or base, including presystolic murmurs, shall be considered evidence of valvular disease." Rheumatic history was also given weight.

Our original regulations coincided with the views we all held for many years, while the revised regulations represent the modern view as set forth in an article by Dr. Henry A. Christian (Boston Medical and Surgical Journal, Nov. 29, 1917, pp. 750-753).

Following this change, we reëxamined our heart cases and qualified almost all of them for military service. It was rare to find disabling heart disease in men under thirty and even if an occasional systolic murmur should prove to be associated with valvular trouble in a heart of normal size and action, the individual would readily serve through a war and would not reach his day of reckoning for some years in the future.

Valvular disease in early life should be preventable by protecting the individual from the exanthemata and from focal infection arising from diseased teeth and tonsils. In the whole country and throughout the draft 5½% of the men examined were found to have defects of the valves or blood vessels.

Otitis and varicose veins each made 2½% of our causes of rejection. Otitis can be mini-

mized by early removal of adenoids and by prompt and skillful treatment of ear troubles. Varicose veins are not so easily preventable, although early recognition and treatment will serve to limit their extent.

Deficient chest expansion, overweight, deafness, loss of one eye, underheight, and varicocele each caused rejection of 2½%. Deficient chest expansion must be classed with underweight, as each shows faulty development or lack of nutrition. Overweight might have been prevented by proper diet and treatment, and deafness due to acute ear trouble may have been preventable.

Two per cent. were feeble-minded; 1½% had hemorrhoids; less than 1% had epilepsy, and the same number undescended testicle.

The regional distribution of defects is well stated in an article by Davenport and Love (*Scientific Monthly*, Feb. 1920, p. 141) as follows: "The northeastern part of the country appears to be characterized by congenital defects and those of city life. The Northwest is characterized by deformities due to accidents, by goiter and by flat foot. The Southeast is characterized by venereal diseases, hookworm and similar complications, including blindness of one eye, arthritis, and ankylosis, underweight, mental defect, emotional disturbances; by pellagra, hernia, loss of upper extremity and bullet and other wounds. The Southwest is characterized by tuberculosis, drug addiction, hypertrophied tonsils and hernia. . . . . From a military standpoint, the Northwest contains the best men of the country." The cities show about 15% more defects than the rural districts.

Kansas leads the country with the fewest defects—only 42%—with only 14% of rejections. Nebraska and South Dakota come very near to the record of Kansas. These states were settled by a young, active and enterprising population, reinforced by wholesome immigration from Southeastern Europe.

Rhode Island, with 80% of defects, has the poorest record of any state. It contains a larger proportion of city population than any other. Massachusetts makes a very poor showing as regards health of its man-power, ranking forty-seventh among all the states and territories of the Union. Only Rhode Island and Vermont have worse records. Forty-seven per cent. of all Massachusetts men examined were rejected because of physical defects. Why should our state have such a bad record? Being one of the oldest and most conservative parts of the country, it perhaps has had more intermarriage of relatives, thus causing deterioration of the race. It has also suffered from emigration to states and territories farther west. In these cases the most vigorous and enterprising have gone, leaving at home those of less marked ability. Thus there has gone on in many parts of New England a gradual selection, which has amounted to a survival of the unfit. We claim to be the most enlightened part of the world and yet one does not have to travel far to find conservatism born of dense ignorance. Western states, although called by us "wild and woolly," are very quick to seize upon new ideas and do so all the more readily because they are not steeped in tradition.

Dense ignorance has allowed a generation to grow up showing numerous individuals with defective teeth, with all digestive troubles and focal infections inherent in the condition. It has marred the race by round-shouldered, narrow-chested, flat-footed individuals with the "hatchet faces" produced by adenoids. These facts, revealed by the draft appraisal, may well cause alarm and lead us to inquire how to escape from a continuance of these conditions.

Some of these registrants were the unwilling victims of heredity, and improvement should have been begun, as Dr. Holmes long ago suggested by more carefully selecting their grandparents. No one doubts the wisdom of careful breeding of live-stock, but the human race, vastly more important, is allowed to propagate itself without guidance. Let us hope that in the requirements of the future, eugenics will have a place. Mankind no longer consists of detached units and we are constantly learning that the welfare of the whole community is of the highest importance and that it can be obtained only by forethought and by the development of the community spirit.

Our next best recourse is to begin with the very young in the public schools, preferably in the kindergarten. Medical inspection should here make its first survey, providing hygienic conditions in the school and securing the early elimination of adenoids and diseased tonsils. A little later the six-year molars should be sought out and saved, either with the coöperation of the parents or by a dental clinic under the direction of the school. Meantime close watch must be kept upon the weight and nutrition of the pupils, for full vigor must be maintained

during the period of rapid growth. Talks on hygiene should be given at intervals during the course, with particular instruction in proper methods of standing and maintaining erect carriage. If this plan is followed underweights and defective chest expansions will be discovered and remedied long before the individual reaches adult life.

Many times faulty conditions exist in the home which will balk all measures for the improvement of the child. These must be discovered by the school nurse, who should visit the home, observe the conditions there and tactfully educate the parent as needed.

Backward pupils are a problem in every school. They not only fail themselves, but they retard whole classes. Mental tests are now used, which readily show the mental power of a given pupil. In my work as school physician, I have seen the need of devoting particular attention to backward pupils, including those frequently out of school because of illness. I have, with the coöperation of the superintendent, begun to bear down on these cases in three ways: (1) Physical examination. (2) Mental tests. (3) Study of the home by the school nurse. Sometimes the mental dulness disappears when adenoids are removed or when deafness is relieved. In others, improvement of the home conditions removes the difficulty, while in still others the backwardness is entirely mental. It is a rare kind of backward pupil, in which the nature of the difficulty cannot be revealed by this method, although unfortunately some of these cases can be remedied only in part.

All these measures will fail in their best results unless there is in every town a department of physical education with some gymnasium facilities and supervision of the outdoor sports.

Annual physical examinations of pupils, properly recorded, will show the need of individual attention and also improvement accomplished from year to year. Medical supervision of schools in Massachusetts was introduced largely to limit the spread of contagious diseases, but it has come to mean much more than that. It should guard the well-being and physical perfection of the pupil throughout his school course. If obstacles to his success exist they should, if possible, be removed. His physique should be strengthened and well maintained. He should receive such instruction that, on leaving school, he will be able to care for his health and to insist on a high grade of living.

I believe that no field of human effort can be more productive in these days than the care of the well-being of our young people. By these means we can hope to produce a race that will be erect, vigorous, alert and successful. These are the days of preventive medicine and it is not unlikely that many of these pupils brought up in the atmosphere of regular inspection will desire to continue such inspection at intervals through life, forestalling many a preventable complaint, maintaining a high degree of efficiency and fortifying the system against the advance of age.

I already find a few individuals who desire to have a physical examination made once a year. It is in line with other practical methods of efficiency. The prudent manufacturer has his production department, his cost and sales systems examined by experts. The automobile will give its best service if it is critically examined at regular intervals. Why not the human machine also? Deviations from health can be discovered and dealt with in the incipient stage. The individual with a tendency to high blood pressure can be advised so to regulate his life as to restore the balance of his circulation. The first indications of pendulous abdomen or obesity can be observed and dealt with. These and a host of other conditions can be noted by the physician before the patient is aware of them and such advice given as will not only serve to prolong life, but to give it greater facility and satisfaction. This method is far more advantageous than waiting till the man is sick and the disease may have done irreparable injury to his system. Moreover, we all know of men supposedly well, who have dropped dead upon the street. By keeping a careful record of successive examinations in a card system, variations can be readily noted and if the man falls ill at any time the record and history of his normal state will be of great value in the conduct of his treatment. General examinations of the eye, ear, nose, throat, and teeth should be included for completeness, serving, if for nothing else, to remind the patient to go to his oculist, dentist or other specialist as needed.

Someone may object that examinations of well people may direct their minds abnormally to symptoms and diseases. This, in my experi-

ence, does not occur. Assurance of health always has a tonic effect and coöperation is readily secured. Talk with the man who has just been accepted for life insurance and see what he says.

Such examinations should not be made in dull routine, but with the sympathetic interest of the physician, visualizing the life and regime of the individual, lightening the load here, bestowing precaution there, and injecting common sense and optimism where necessary.

The busy practitioner in his daily round should not be content with simply getting the patient through his attack of tonsillitis or influenza, so that he can resume his occupation, but should review his physical condition and consider whether he is getting the best out of life. If not, he should study his case and advise him accordingly. The general practitioner holds a rare position as confidential friend and adviser and should manifest a vital interest in his families from generation to generation. If specialists are needed, he should wisely select them and see that their work produces the required results. He should be the strong coördinating influence, directing and enforcing all good measures for the welfare of the patient. He should not lightly hold the responsibilities of this relation, but should remember that for the time being the family look up to him as to no one else. He should therefore not necessarily confine himself to the particular patient he is called to attend, but should show a friendly interest in the family welfare, tactfully advising them of any errors in their method of life. He should, by no means, allow a defective or sickly child to grow up unnoticed or lightly pass by any source of focal infection. Such matters as these can be dealt with in a friendly spirit, without officiousness. A little interest here and there will contribute to that perfection of the race for which we all should strive.

Universal military training is now under discussion. Should it be adopted, the benefit of examinations like those of the draft, would be further extended. In fact, a physical survey of the youth of the land would be made every year. This would undoubtedly stimulate the race to greater physical stability. The military training would eliminate the last tendency to round shoulders and would improve the physique as it uniformly did during the late war.

Should the measures I have suggested be carried out in the schools and in the home and by the general acceptance of the means of preventive medicine, I feel sure that another generation will show a man-power that we can regard without reproach—a physical perfection of which we can be proud.

Original Article.

TUBERCULOSIS AND INFLUENZA.

BY JOHN B. HAWES, 2ND, M.D., BOSTON.

WHAT is the effect of an attack of influenza on previously existing pulmonary tuberculosis? This question has been asked countless times during the past two years. Physicians all over the country and especially those who deal extensively in pulmonary diseases have again and again met this problem and worried over its solution. There is an amazing difference of opinion in regard to it. Some, notably Fishberg, have held that consumptives possess a high degree of immunity against influenza and that an attack of this disease does little or no harm to the previously existing tuberculous process; others look upon it as a very grave and serious complication.

Raymond Pearl, of the Department of Vital Statistics of Johns Hopkins University, in a preliminary report has furnished the most valuable information on this subject that I have seen. Of over 2,000 tuberculous persons that he investigated, 25% had influenza: of 8,000 non-tuberculous persons 22.3% had influenza. This difference is small and not significant one way or the other.

The question of immunity is an interesting one. Does a consumptive really possess any such immunity or is the decreased incidence of influenza among consumptives which apparently does exist as compared with that incidence among the population at large due to the careful hygienic and better living conditions under which the consumptive lives? This is not an easy question to answer. In order to get further light on it from the experience of others, I wrote personal letters to a representative group of physicians whose practice deals largely with cases of pulmonary tuberculosis and asked their opinion as to the relation of influenza and tuberculosis and the effect of one

on the other. The replies that I received, which I summarize here, are of interest.

Two out of the fifteen replies stated that they had no cases of influenza at their respective institutions. I feel that they are to be congratulated for this remarkable record.

Dr. E. R. Baldwin of Saranac Lake states that his experience at Saranac Lake leads him to believe that influenza did not do as much harm as was expected, especially in the way of aggravating existing tuberculous disease; undoubtedly it led to the discovery of many hitherto latent cases. Approximately 25% of the patients arriving at Saranac since September, '18, gave a history of influenza and attributed in their own minds at least, the outbreak of their tuberculosis to this disease.

Dr. C. H. Cocke of Ashville, N. C., was likewise pleasantly surprised by the way advanced cases of tuberculosis stood influenza. As a rule, he feels that such patients withstood this disease remarkably well.

Dr. Bayard Crane of Rutland, Mass., is of the opinion that a severe attack of influenza excites the tuberculous process seriously, although none of his cases died directly as a result of this disease.

Dr. Cleaveland Floyd of Boston does not feel that the tuberculous process was made any worse by influenza unless the patient had pneumonia as well. His impressions, however, in regard to this are still unsettled.

Dr. H. F. Gammons of Dallas, Texas, holds an opposite opinion and states that at least 75% of tuberculous patients suffered an increase in their trouble as a result of influenza. Of the patients entering his sanatorium, 90% did not have any sign of tuberculosis until they had influenza. The follow-up work in Texas shows that 75% of former patients who had influenza have died; whether or not death was due to influenza or tuberculosis, however, is not known.

Dr. Hugh M. Kinghorn of Saranac Lake, N. Y., had a very small proportion of influenza among his patients,—less than 10%. Out of ten cases, two died and eight recovered, of whom only one was made worse by influenza.

Dr. George N. Lapham of Rutland was one of those fortunate ones who had no case of influenza among his patients. Among his discharged patients there were a few who had relapses that they attributed to influenza. He was struck by the comparatively few cases of this disease among his tuberculous patients and believes that tuberculosis must furnish at least partial immunity against influenza.

Dr. David Lyman of Wallingford, Conn., likewise had only a few cases. Out of six patients with influenza only one was apparently any the worse for this experience.

Dr. C. L. Minor of Ashville, N. C., feels that a large number of our present cases of tuberculosis are the direct result of the influenza of 1918-19. Its effect on previously existing tuberculosis is to make it much worse. As a routine measure, he believes that every patient with influenza should be under careful observation for at least six months lest tuberculosis develop.

Dr. R. C. Paterson of Saranac Lake, N. Y., considers influenza a serious complication for anyone who has or has had tuberculosis. There was no influx of tuberculosis cases *immediately* after the epidemic, but since the spring of 1919 many patients have come to Saranac for the first time or for a relapse who definitely dated their trouble from their influenza.

Dr. Andrew Peters of Liberty, N. Y., writes for Dr. B. H. Waters of the Loomis Sanatorium that only ten patients contracted influenza. Of these, nine are living five of whom are in satisfactory condition. Out of 1,227 ex-patients, from whom inquiry was made as to influenza, only 70, or 5½%, reported that they had had this disease. Of these, 16, or 22%, died of influenza, eight had relapses apparently due to this, and 35 or 50%, are now in good condition, having apparently suffered no ill effects.

Dr. O. S. Pettingill of the Western Maine Sanatorium reports that out of 33 influenza cases at his sanatorium only one died and in only three did the influenza do any apparent harm. The rest are all alive and well.

Dr. F. M. Pottenger of Monrovia, Cal., has observed a number of patients who had tuberculosis without knowing it, whose infection was lighted up by influenza; where the influenza was at all severe it has made the tuberculous process worse and has reduced the patient's chances of getting well. On the other hand, he believes that not only are tuberculous patients certainly not any more susceptible to influenza but probably less so.

Dr. J. M. Wise of the New Hampshire State Sanatorium writes that out of 49 of his patients who had influenza there were 22, or 45%,

in whom the influenza did no harm; six died as the immediate result of influenza, of whom five were already unfavorable cases, and five died later of tuberculosis which was made worse by influenza. He is of the opinion that influenza does distinct harm to the tuberculous patient.

Here then are expressions of opinion from men of wide experience coming from every part of the country. These opinions vary widely from those who believe influenza to be a most dangerous and fatal complication, almost invariably doing harm, as shown by Dr. Gammons' figures among ex-patients in Texas, to those who consider influenza always a serious but not always a dangerous complication and whose faith that the tuberculous patient does possess a certain degree of immunity against influenza seems to be borne out by their figures. The experience of Dr. Waters and Dr. Peters at Loomis, based on their discharged patients, seems to bear this out and is at distinct variance to that of Dr. Gammons of Texas.

In order to get further light on this subject I have studied the history of the epidemic as it affected the patients in Massachusetts sanatoria for consumptives and I have looked up the present condition of those patients who came down with influenza while in our state sanatoria.

The incidence of influenza among the population at large in Massachusetts was 3.5% in the year 1918, considerably less in 1919. The incidence of influenza in our state sanatoria during the entire years 1918 and 1919 was 4.4%. Its fatality in the State at large was 9.5% in 1918, 7.6% in 1919; its immediate fatality at our state sanatoria was 16.5%, and its ultimate fatality as far as I have been able to ascertain, including in this deaths of patients whose tuberculous process was apparently made worse by influenza so that the latter was the indirect cause of death, was 22%.

These figures certainly do not show any particular immunity to influenza among tuberculous patients nor anything to indicate, judging from the mortality figures, that influenza is not a serious complication. On the other hand it is well to remember that of the 2,000 patients on whom this study is based 44% were in the advanced stages of consumption and that of the 213 who contracted influenza 71, or 33%, went through a typical attack and recovered without apparently any serious after effects. Of these 213 patients who had influenza, 33% recovered without any ill effects; 20% were apparently made worse, though living at present; and 22% died either directly of influenza or indirectly, later on, of tuberculosis made worse by influenza.

Can one deduce anything from these figures? I think not. Although the incidence of influenza among patients at our state sanatoria was greater than that among the people of Massachusetts as a whole, it was vastly less than its incidence at other state institutions, such as at our insane asylums, etc., and among nurses at our large general hospitals and indeed among the public at large in the crowded quarters of our large cities. The mortality, 22%, at first seems distressingly large, but as I explained above, considering the fact that of those who died the greater number were already advanced consumptives for whom in most instances the prognosis was necessarily bad even without influenza, this high death rate is not so appalling. To me it is rather encouraging that the influenza did no more harm.

What can we learn from our experience with such an epidemic as this with especial regard to tuberculosis? I would answer this briefly as follows:

1. Eternal vigilance is the price of safety. We must regard any patient who comes down with a cold or other acute symptoms, whether or not he has tuberculosis, or dwells inside or outside a sanatorium, as a possible case of influenza and at all events a source of contagion.

2. Although it is quite possible and I personally believe probable that the tuberculous patient does possess a certain degree of immunity against influenza, this must not be taken for granted and every effort must be made to prevent his getting it.

3. The treatment of the tuberculous patient with influenza is the same as that of the person without tuberculosis and should be based on rational lines of rest, elimination and stimulation when necessary. It should be regarded at all times as a serious but by no means a hopeless or fatal complication.

4. Post-influenzal bronchitis and debility are real and definite clinical entities but in many cases, however, they serve merely to disguise a newly awakened pulmonary tuberculosis. In every case of influenza when there is either a cough or prolonged physical depression follow-

ing the disease, the patient should be kept under careful and constant supervision.

5. The early diagnosis of pulmonary tuberculosis, always a difficult task, has been made increasingly so on account of influenza and its effects. While undoubtedly many cases of tuberculosis have been discovered or made active on account of influenza, there are numerous patients who have been wrongly classified as consumptives owing to signs and symptoms, constitutional and referred to the lungs that were really due to influenza and not to tuberculosis. Care, conservatism and common sense are needed now more than ever in handling this difficult problem.

Clinical Department.

TRAUMATIC SPLEENS. REPORT OF CASE HISTORIES WITH DISCUSSION AND SUMMARY.

By Francis Freeman Henderson, M.D., Boston,
Boston City Hospital.

A survey of medical literature of recent years reveals very little about the surgery of traumatic rupture of the spleen. However, from 1909 to 1914 there are reported thirty-one cases of ruptured spleens,[1] from which one gets an idea of the rarity of such cases in general surgery.

A review of operations at the Boston City Hospital since 1914 shows ten cases of ruptured spleens, eight of which were traumatic, and two spontaneous in typhoid fever. Of these ten cases four survived the operation of splenectomy, and of the ten, I operated upon five, three of which lived.

Case histories of these five follow:

Case 1. Harry A.; age, 34. Admitted to the Boston City Hospital August 31, 1918. Previous History—Unimportant. History of Present Injury—The police stated that the patient was struck by a locomotive, and that he was brought to the hospital at once. Physical Examination—A well developed and nourished man showing a contusion of the occiput and a severe abrasion of the right shoulder. He complained of tenderness over the lower left chest, but there were no fractured ribs. The abdomen was held slightly rigid. The examination was otherwise negative. Temperature, 95.8° F., and pulse 85.

The patient was sent to the ward for further observation. During the following nine days the temperature and pulse slowly rose to 103° F. and 140 respectively. The right arm at this time was severely septic and was under treatment. Because of the patient's weakening condition, tenderness persisting in the left flank, and the rising pulse, operation for exploration was considered advisable.

Operation: The abdomen was opened through a high left rectus incision. A large amount of old blood was found in the peritoneal cavity. Exploration of the liver, kidneys, stomach and intestines revealed nothing abnormal. The spleen was found to be nearly severed through the middle, with a large amount of old blood clot over it. Splenectomy. The patient had 1500 c.c. of salt solution intravenously on the table, and was returned to the ward in poor condition. He died thirty-six hours after operation. Just before death his temperature was 107° F. and the pulse 150.

Case 2. Bernard C.; age, 45. Admitted to the Boston City Hospital October 26, 1918. History of Injury—The police stated that the patient was struck and run over by an automobile and that he was brought immediately to the hospital. Physical Examination—A fairly well developed and nourished man under the influence of alcohol and in considerable shock. Temperature, 97.5° F.; pulse, 140; respiration, 15. He was excited and complained of pain in the left side of flank. Local Examination—The tenth and eleventh ribs on the left were fractured, with contusions of the skin. The abdomen was held rigid by voluntary spasm. After two hours there was shifting dullness; the vomitus had an alcoholic odor; there was fresh blood in the urine. Diagnosis—Ruptured left kidney. Operation advised.

Operation—The abdomen was opened through a high midline incision. Free blood in large amount appeared on opening the peritoneum. The liver was normal in size and was evidently not ruptured. The spleen was torn about two inches into the hylus. Splenectomy. Retroperitoneal blood was found on the left and examination of that kidney revealed a torn vein near the hylus. Nephrectomy. The abdominal cavity was then sponged as dry as possible, but bleeding still persisted now from the region of the right kidney. It was examined and found to be lacerated in two directions through the cortex into the hylus. The kidney was brought forward and the capsule sutured. Abdomen closed without drainage; 1500 c.c. of salt solution given intravenously on the table. Returned to the ward in very poor condition. Death in two hours.

Case 3. Maude P.; age, 25. Admitted to the Boston City Hospital October 2, 1919. Past History—Patient has been married seven years with no children. Miscarriage six years ago. Had measles, pertussis and diphtheria as a child. She stated that since an appendectomy

in 1916 she has not been well. Bowels always constipated without cathartics. A frontal sinus was drained, and tonsils and adenoids removed in 1917. Catamenia painful. Menstrual flow last month was much less than normal. On the date of entrance to the hospital she was menstruating and had dysuria. No pain on micturition; no nocturia. Present Illness—On September 30, 1919, the patient had a sharp pain in the lower abdomen and rectum; the onset was not sudden or very severe. Sitting at that time was painful. She did not collapse or take to her bed. That night she could not sleep, and she felt much worse the next day. On day of admission her husband became alarmed at her paleness and weak condition and decided to bring her to Boston by train. At the station, on arrival in Boston, she fainted and fell to the floor unconscious, remaining so until shortly before operation. On very close questioning, no history of trauma could be obtained. Physical Examination—A rather poorly nourished and developed woman lying on the examining table in a semi-conscious condition; a rapid pulse and shallow respiration; seems in considerable shock. Local Examination—The abdomen was markedly distended; there was extreme tenderness in the lower quadrants, and dullness in the flanks. Examination was difficult because of pain. Vaginal examination showed a soft cervix; uterus normal in size; vaults tender, particularly the left, and blood appeared on the gloved finger. Diagnosis—Ruptured viscus.

Operation—Abdomen opened through a low midline incision. On opening the peritoneum, there flowed out a large quantity of fresh blood with clots. The left tube appeared pregnant and was clamped; the right tube was normal. Bleeding still persisted, apparently coming from higher up. The incision was prolonged upward. Both kidneys were normal by palpation. The spleen, normal in size, was covered with blood clot and torn from cortex to hylus. Splenectomy done. The bleeding stopped, and the abdomen was closed in layers without drainage; 1000 c.c. salt solution were given intravenously on the table. Patient returned to the ward in poor condition.

The convalescence was uneventful and she was discharged relieved on the eighteenth day. On the day following operation the red blood count was 2,168,000; white count, 9,600; differential count: polymorphonuclears, 59%; small mononuclears, 25%; large mononuclears, 14%; eosinophiles, 1%; transitional, 1%. Pathological Report—Tubal pregnancy. Normal splenic tissue.

CASE 4. Annie S.; age, 19. Admitted to the Boston City Hospital July 31, 1918. Admission Diagnoses—Fractured skull and ruptured viscus. History of Injury—Patient was said to have fallen from a second floor veranda while fighting with her sister. She was brought to the hospital at once. Physical Examination—A fairly well developed and nourished young woman unconscious and in a state of severe shock. Her pulse was thready and the mucous membranes very pale. There was a contusion over the left eye. Local Examination—Abdomen rigid throughout. Dullness in both flanks, more marked on the left. The left flank was extremely tender with costrovertebral tenderness and spasm. Patient considered unfit for operation and was sent to the ward for shock treatment. After two hours, she was fully conscious and complained of pain in the left side and difficulty in breathing. Her pulse was very weak and so rapid that a count could not be made. The flanks were flat on percussion; urine, catheter specimen, was bloody. Diagnosis—Ruptured left kidney. Operation advised.

Operation—Abdomen opened through a high midline incision. Peritoneal cavity filled with fresh blood and clots. The blood was sponged out, revealing hemorrhage from the left kidney. Examination of kidney showed a tear through the middle. Nephrectomy done. Bleeding persisted from the region of the spleen, which was ruptured near the hylus. Splenectomy. Abdomen closed with a drain to the site of the kidney; 1500 c.c. salt solution given intravenously on the table.

The convalescence was marked by weakness, a rise in pulse and temperature to the fourth day, when they gradually fell to normal, and the draining of blood-stained fluid. After two weeks the red blood count was 2,000,000 and the hemoglobin 65%. Discharged relieved on August 22, 1919.

CASE 5. James B; age, 38. Admitted to the Boston City Hospital on August 7, 1919. History of Injury—Patient stated that on August 2, while standing at the door of his home after supper, he was suddenly seized with pain on the right side of his abdomen and fell to the floor. He did not vomit or purge, or lose consciousness. He got to bed and the family doctor was called, but did not see him until the following day, when he stated that he was suffering from overindulgence in smoking. The pain in his side was relieved by drugs, but he complained of thirst and grew weaker. He was unable to eat, and his wife noticed that he was paler than normal. The doctor was called again and he advised sending the man to hospital for a "gall stone operation," the pain and tenderness being on the right side. Physical Examination—A well developed and nourished man in some shock, complaining of pain in the right side and difficulty in breathing. He had thirst and a sense of suffocation. Temperature, 97° F.; pulse, 140; respiration, 22 and shallow; Mucous membranes pale; abdomen board-like, with no visible tumors or peristalsis; there was marked spasm and tenderness over the right upper quadrant. There was evidence of fluid in the flanks. The liver and spleen could not

be palpated. Urine and feces negative for blood. Examination otherwise negative. Diagnosis—Perforated gall-bladder.

Operation—Abdomen opened by a high right rectus incision. A large amount of old blood found in the peritoneal cavity. Exploration of liver, gall-bladder and stomach revealed nothing abnormal. The splenic area was filled with a large amount of thick and tenacious blood clot with apparently a large, boggy spleen. On bringing this mass to the surface it was found to be mixed clot and splenic tissue. Splenectomy. Abdomen closed without drainage; 1000 c.c. intravenous salt solution administered on table. Four days later he was found sitting up in bed reading a paper, and said he felt fine. The pulse and temperature were normal. He was eating and sleeping well. On the eighth day the stitches were removed; wound clean. On close questioning at this time, the patient said that on August 2nd he was seized with a sharp pain in the left side while attempting to lift a sixty-pound tub from the floor to a high shelf at his home. He did not connect this pain with his present illness, because the latter pain was on the right side. Discharged relieved.

A review of the above five cases brings out several interesting points in connection with the results obtained. It will be noted that Case 1 was not operated until nine days after injury, and that during that time he must have had marked toxic absorption from blood in the abdomen and sepsis of the right arm as noted by his rise in temperature and pulse from 95.8° F. and 85 on admission, to 103° F. and 140 respectively at time of operation. I believe that delay in operating and the sepsis were the causes of death in this case.

Although Case 2 was operated as soon as possible after injury, both kidneys and spleen were severely lacerated, and the patient was depressed by alcohol. This case seems to have been hopeless from the beginning.

Case 3 is interesting because she fell at the station while suffering from a ruptured ectopic pregnancy and ruptured her spleen. Recovery from both these conditions, with much loss of blood, seems to me remarkable.

The fourth case deserves consideration because of the marked state of shock on admission; the severe lacerations of the spleen and left kidney; her extremely low condition at time of operation, and her quick return to normal after splenectomy and nephrectomy.

Case 5 probably received an intracapsular parenchymatous rupture of the spleen at the time of lifting the heavy weight to the shelf. The spleen became enlarged and finally ruptured through the capsule, spreading blood throughout the abdomen and producing the secondary pain on the right. His recovery, although operated six days after injury, is interesting when contrasted with Case 1, which was septic.

Of the other five cases on the hospital records, two were spontaneous ruptures in typhoid; one, proven by operation, and the other, by autopsy. The case operated had sudden rise in pulse from 140 to 150 and always had a temperature of 103° F. A splenectomy was done on the day of collapse, and the patient died twenty-four hours later. The third case was in extreme shock on admission, having fallen thirty feet from a live wire. After several hours under shock treatment, splenectomy was attempted, but the patient died on the table. The fourth was run over by an automobile; came to the hospital in shock, showing a fracture of the twelfth rib on the left. Splenectomy was done five hours after admission. Nine hours after operation a transfusion of 800 c.c. of whole blood was done, but the patient succumbed twenty-four hours later. The fifth case is interesting because of the severity of the injury and the rapid recovery. He was operated upon by Dr. F. B. Lund on the First Surgical Service. The police found the man lying in a pool of water on a rainy November morning. It was discovered later that he had jumped from the roof of a four-story building some time early that morning. He was brought to the hospital in extreme shock, unconscious, and apparently dying. A diagnosis of ruptured gut was made. A transfusion with 600 c.c. of whole blood was done by Dr. H. Q. Gallupe, followed immediately by splenectomy. The convalescence was uneventful.

A summary of the important facts of the ten cases shows that in only one was the diagnosis of ruptured spleen made before operation, and that was the case of typhoid. In all cases save one, the pulse at admission ranged from 120 to 160. In all, with the exception of the typhoid, the admission temperatures were subnormal; one as low as 95.8° F. Only one of the cases that recovered was transfused with whole blood; the other three had intravenous salt solution. All the patients were under forty-six years of age. Seven out of the ten showed no signs of external injury pointing to trauma of the spleen. Two of the remaining three had

fractures of the ribs over the spleen; the other having only lower chest tenderness.

Conclusions:

Immediate operation is essential.

A subnormal temperature and a high pulse on admission are constant, due to shock, and most certainly are signs of internal hemorrhage, when there is a history of injury.

Injury to the spleen seems to occur more often before old age, which may be due in part to the fact that the spleen atrophies and becomes selerosed after middle age.

Given a ruptured spleen, splenectomy is the operation of choice. Packing the spleen is inadvisable.

The reason for missing the diagnosis is mostly due to the fact that few, if any, outward signs of injury are found which would definitely point to trauma of the spleen.

Trauma of the spleen is probably due to the proximity to, and injury by, ribs, whether they are found to be fractured or not.

Differentiation between rupture of the spleen and rupture of a hollow viscus is often impossible.

REFERENCE.

[1] Barnes, Allen F.: Annals of Surgery, April, 1914.

RUPTURED UTERUS IN PREVIOUSLY CAESAREANIZED PATIENT; WITH REPORT OF CASE WHERE FOETUS REMAINED INTACT WITHIN MEMBRANES FOLLOWING RUPTURE.

BY CHARLES J. KICKHAM, M.D., BOSTON,

Senior Obstetrician, St. Elizabeth's Hospital.

RUPTURE of the uterus on a previously Caesareanized patient has been given a great deal of attention of late and reports appear from time to time of this accident but, as far as I can ascertain from a review of the literature, there is a slight tendency to minimize the seriousness of the condition, in its broad relation to the subject of hysterotomy in the pregnant woman.

Nearly one hundred cases have been reported of this type of rupture and while this number is small, in comparison to the number of Caesareans done, it is a sufficient number to make us ponder over the condition. When once a patient has been Caesareanized, our course in a future pregnancy calls for calm judgment of the individual case. No conscientious obstetric surgeon desires to subject a patient to a second operation, if such can be avoided with safety; on the other hand no man wants to be confronted with such a grave complication as ruptured uterus if a repeated operation could have anticipated this accident. The question, for or against repeated Caesarean, rests or hinges on the integrity of the uterine scar or the tissues in the region of this scar. The leaning is one of optimism in regard to the integrity of the uterus following previous hysterotomy and I am sorry if I appear contrary or pessimisite when I say that rarely am I confident of the strength of any previously hysterotomized uterus.

Novack[1] gives his opinion that about two to three per cent. of Caesareanized women have a rupture later and thus feels that since our accidents are so few we should not get unduly worried. With this I cannot agree, because a rupture under these conditions is so serious, with such a high mortality and followed as it usually is by hysterectomy, with the resultant prevention of future maternity.

To help decide the question as to the need of Caesarean on a once Caesareanized patient, Mason and Williams[2] have experimented with care on animals and as a result of their studies conclude that the rupture in this type of case does not come in the scar itself but in the tissues external to it; in other words, that the scar is as strong, if not stronger than the normal uterine muscle and therefore feel that where one is reasonably certain that no septic infection has taken place during the healing process, that a repeated operation is not needful, because the uterus should be able to stand the strain of at least normal contractions. This view is corroborated by Losee[3] when he says, "A perfectly healed wound leaves the myometrium as strong as before as far as can be determined by histological examination." But here is where we get at the nub of the question, "a perfectly healed wound," because in the same article Losee says, "The strength of the uterine scar after Caesarean section depends upon absence from the wound of infection and foreign material and perfect coaptation of the incised surfaces. . . . . If we were certain about complete union of the uterine wound, following primary section there would be no occasion for such anxiety because uterine muscle will regenerate completely if there has been

perfect coaptation of incised tissues and if the cut surfaces once approximated are not separated by blood clot or lochia." It is just this "if" in the above quotation which makes the hazard great and our anxiety in a pregnancy following previous Caesarean justified.

If one could be sure that the uterine wound had healed by first intention and thus histologically sound, we would be justified in having little or any anxiety in a future pregnancy, but who could say that such a happy result had taken place in a given patient? In this connection Findlay[4] writes, "We are not justified in voicing the slogan, 'Once a Caesarean, always a Caesarean,' nor can we rely explicitly upon the integrity of the uterine scar in every case."

As well as the uterine scar resultant from previous hysterotomy, in a future pregnancy we must give consideration to the influence of the placenta. Some writers feel that the implantation of the placenta over the site of the uterine scar tends to weaken that scar and thus be a factor in subsequent rupture; others contend that if the scar is sound the effect of placental attachment is *nil*, or it is only the weak or imperfectly healed scar that is influenced by placental position, and this brings us back to the first principle in decision for or against repeated operation, *viz.*, the knowledge as to integrity of previous uterine scar. Since few wounds heal with such perfection as to be histologically perfect, we may have a postoperative convalescence free from all observable complications and thus make us reasonably certain that the wound has healed by first intention and such not be actually the case; a slight weakness may be present as a result of mild infection or imperfect coaptation of parts and since the position of placenta cannot be determined with any degree of certainty, we have this added complication to render our opinion of the strength of the scar more doubtful.

Again, in making our decision for or against secondary operation and time for that operation, if decided upon, we take into consideration the duration of pregnancy, as dated from last menstruation, as well as size of enlarged uterus as governed by size of foetus or amount of distention from amniotic fluid; and this is a strong point for or against repeated operation because, if we are reasonably sure of the integrity of the uterine scar and the uterus is not overdistended with fluid or large foetus, we may take more chances with uterine contractions and delivery by vaginal route. Unfortunately the degree of uterine distention or duration of pregnancy cannot always be a criterion of safety from rupture, as Kerr[5] had a case which ruptured at 30 weeks and my own case reported here was, according to the mother's count and not uncorroborated by size of uterus previous to rupture, that of only 30 weeks.

Primary Caesarean section is one of the most necessary operations in certain obstetrical conditions and in the avoidance of repeated operation, where possible, I heartily agree, but from my studies of the literature, as well as talks with my associates, I can come to only one conclusion; and that is, that no obstetrical surgeon can place too great confidence in the integrity of any previous scar, because too many factors enter into the case which might prevent perfect healing. Also, that every writer will qualify his apparent faith in the healing of such wounds by noting that healing depends upon this or that, none of which can be determined, and thus the condition of the scar and it strength must be a matter of guess work.

Thus I suggest the old maxim, "An ounce of prevention," etc., in other words, as far as is possible in the individual case avoid the primary incision; I believe that hysterotomy should be done only in the odd case, where the indications are strong and after conservative deliberation by the obstetrician; that instead of extending our indications for this operation we should contract them. When the operation is decided upon the operator should not try for a time record but govern his speed by his experience and ability to do a good "job"; take the time to approximate wound surface accurately and exclude blood accumulation before tying sutures; make sure sutures are not tied too tightly and thus "cut out" or cause necrosis; all of these points being emphasized as means to prevent weakness in scar by improper healing. In the matter of infection I will say nothing, as all strive to eliminate that as far as possible.

In conclusion I repeat that primary Caesarean section should be done only after careful consideration of the future effect. Where one Caesarean has been done, if the postoperative convalescence has been normal and the uterus not overdistended, we may take a chance with normal contractions and vaginal delivery and be successful, always assuming

that pelvis is normal in size and shape, but from my experience with this one case of rupture which gave so little warning and from examination of scars at repeated operation and noting many times how very thin and weak the tissues were in this region, I feel that in a pregnancy following previous Caesarean section our decision should be to operate, unless the evidence and our faith in the soundness of the previous scar are preponderant.

CASE REPORT.

Mrs. O'N. Aged 27. Para 3. Housewife. Family History—Negative. Past History—May, 1917, had Caesarean for eclampsia with dead baby. June, 1918, second Caesarean with living baby. Both operations done at private hospitals and convalescence normal. Otherwise history negative. Present Illness—Patient came under writer's care when about four months pregnant. Frequent examination showed all functions normal and abdominal scar in good condition; uterine scar, as far as could be determined, felt firm. Patient during progress of pregnancy enlarged normally and without abnormal symptoms. During antepartum period patient and husband instructed as to symptoms of rupture of uterus and particularly impressed with importance of sending for writer if any acute abdominal pain or unexpected symptoms occurred (this is mentioned as I feel my instructions on this point were responsible for my seeing the case shortly after rupture had taken place).

About four hours previous to operation patient had eaten a hearty meal, including several hot biscuits, which latter had on other occasions caused vomiting. Thus, when about one-half hour after this meal she had a cramp in lower abdomen and vomited, she assumed it was the result of this meal. Her husband, on returning, got the above history and, remembering my instructions, called the writer on the telephone and gave the above report. I decided to visit the house and arrived in about one-half hour. At this time patient was in bed and repeated history as above. She said she had no great pain, only a "severe cramp," and vomited once, and at present had a feeling of "irritation" over whole lower half of abdomen, with a constant desire to urinate.

Examination—Patient looks well and is laughing. Color excellent, pulse 75, good quality and regular; temperature 98.4° F. Inspection of abdomen showed normal contour for about 30 weeks' pregnancy (which she was, according to date of last menstruation). Palpation results were puzzling. The uterus could apparently be made out but not with a degree of certainty consistent with normal conditions; the uterine "wall" seemed lax and yet this "wall" seemed to enclose foetus; the foetus itself could be palpated with more than usual ease but not more so than many cases where patient has had repeated pregnancies; the foetus was not very freely movable and when pushed to one side or other would return as in normal abdominal ballottment. No foetal heart heard but patient said she felt movements. No vaginal discharge up to this first examination.

No vaginal examination made. Considering history, with practically no pain, general appearance and morale so good; no sign of hemorrhage or shock and on physical examination findings so puzzling, the question of proper diagnosis was in doubt. My diagnosis after weighing findings was probably a small rupture of uterus and while explaining this to husband and advising removal to hospital, patient had a small discharge of bright red blood. This confirmed provisional diagnosis in my mind and patient was removed to St. Elizabeth's Hospital at once. After entrance, I had the Obstetrical House Surgeon go over the abdomen, to check up my findings, and he gave it as his opinion that the foetus was clearly within the uterus and that the walls of uterus could be made out. With a tentative diagnosis of ruptured uterus I advised exploratory laparotomy and the husband and patient consented.

Operation—Median abdominal incision made, following line of previous skin scar; on opening peritoneum fresh blood welled out of wound; exploration showed foetus, still within its intact membranes, and placenta free in abdominal cavity; foetus delivered through abdominal wound before membranes ruptured. Intestines and peritoneum had normal appearance. Uterus was found contracted down into pelvis to about size of large grapefruit, with a rent, triangular in shape, on its anterior wall. Broad ligaments and vessels were ligated in usual way and supravaginal hysterectomy done. Drain inserted into pelvis and peritoneum and abdominal wall closed around drain in layers. In all, about ten ounces of fresh blood seemed to have been free in abdominal cavity. Patient made an uneventful recovery as far as her abdominal condition went, but on fourth day developed a phlebitis of left leg, which became very marked and caused much pain and septic temperature. Patient was discharged at end of three weeks in good condition. Examination at end of one month after discharge showed abdominal wound well healed and firm; no tenderness on palpation; general condition of patient excellent. The baby at birth showed no signs of life or pulsation in cord, but attempts at resuscitation were made for safety, but with no result. Baby weighed 4 pounds and 7 ounces.

Pathological Report (by Dr. Francis P. McCarthy, Director of Pathological Department, St. Elizabeth's Hospital)—Received uterus without cervix and with stumps of both Fallopian tubes. The uterus size of grapefruit;

measures 13 cm. in length; 12 cm. at its greatest width and 6 cm. thick. There is an area of rupture in the anterior wall of the uterus involving upper half, which is irregular in shape, resembling an inverted T. The extreme length of rupture is 6 cm.; laterally to the right 3 cm., and laterally to left 2 cm. The rupture gapes open from 2 to 3 cm. The rupture follows in general the side of one of two old scars, namely the one on the right. This old scar measures 9 cm. in length; second scar is to left of first about 2 cm. The placental site lies up in fundus and involves greater part of area of rupture. The uterine wall measures from 2 to 3 cm. in thickness, except at site of rupture, where it measures .5 to .7 cm. in thickness.

Pathological Diagnosis—Ruptured uterus.

COMMENT.

This case is interesting because of lack of symptoms on which to base definite diagnosis and because at operation foetus was found within its membranes, and all, including placenta, was free in abdominal cavity. It is a typical example as to how little real pain need accompany a rupture of the uterine wall, sufficient in extent to discharge uterine contents; it is an example of how, under these conditions, the uterine muscle may contract so quickly and with sufficient strength as to prevent excessive hemorrhage; it is proof that size of foetus, degree of uterine distention or supposed duration of pregnancy, as figured from date of last menstruation, are doubtful points in the prognosis of any previously hysterotomized uterus.

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Book Reviews.

Manual of Psychiatry. Edited by Aaron J. Rosanoff, M.D. Fifth Edition, Revised and Enlarged. New York: John Wiley & Sons. 1920.

The fifth edition of J. Rouges de Fursac's *Manuel de Psychiatrie* is here translated and edited by Dr. Rosanoff with additional material on psychological tests, social psychiatry and serology by various contributors. The volume is divided into general and special psychiatry and to these have been added appendices dealing with the technique of special diagnostic procedures, such as lumbar puncture, examination for aphasia, the development of and examination for intelligence, association tests, psychological group tests and the classification of mental diseases adopted by the American Psychological Association. The fact that this volume has gone through five editions both in the original and in an English translation, attests to its popularity; and for a brief descriptive treatise of mental disorders, we know of no more satisfactory work for the student or beginner in psychiatry. In the main, the classification of Kraepelin is adopted.

Manual of Emergencies. By J. Snowman, M.D., M.R.C.P., Lond. New York: William Wood & Co. 1919.

This *Manual of Emergencies*, based upon the English edition of Lenzmann's *Emergencies in Medical Practice*, represents the teaching of leading British authorities on medical, surgical, and obstetric emergencies. The general plan of Lenzmann's work has been followed by the author of this volume, but the subject matter has been entirely revised and the text rewritten. This book deals only with emergencies which are of sudden origin and dangerous to life; injuries such as fractures and dislocations are excluded. Diseases of various systems and organs are considered from the diagnostic and pathologic standpoints, and suggestions for treatment are offered. Among the subjects considered are: diseases of the respiratory system, including hemorrhage, obstruction in the respiratory tract, and dangerous pulmonary diseases; dangerous emergencies in diseases of the heart, such as cardiac asthma, syncopal attacks, rupture of the heart, and acute pericardial effusion; and nervous disease, such as shock, sudden loss of consciousness from various causes, or convulsions due to epilepsy or tetanus. Hemorrhages of the gastrointestinal tract, acute gastroenteritis, intussusception, strangulated hernia, and acute peritonitis or pancreatitis present dangerous emergency cases. In the case of the urinary organs, hemorrhage, retention or suppression of urine, and uraemia cause conditions often suddenly dangerous to life. The action of corrosive and irritant poisons, blood poisons, nerve poisons, food and serum poisons are explained, and symptoms and treatment are considered. Methods are discussed which have been found most successful in the treatment of such obstetric emergencies as hemorrhages of pregnancy, extrauterine gestation, acute inversion or rupture of the uterus, eclampsia, and asphyxia neonatorum. This book covers a wide range of subjects; it is a standard work of great practical value, and will be found useful in dealing with medical, surgical, and obstetrical emergencies.

THE BOSTON
Medical and Surgical Journal

Established in 1812

An independently owned Journal of Medicine and Surgery, published weekly under the direction of the Editors and an Advisory Committee, by the BOSTON MEDICAL AND SURGICAL JOURNAL SOCIETY, INC.

THURSDAY, NOVEMBER 18, 1920

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BOSTON MEDICAL AND SURGICAL JOURNAL

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SMOKING AND FATIGUE.

THE usual method of studying the effects of smoking is the experimental, with the chemical analysis of the chief constituents of tobacco thrown in; or the clinical, in which the analysis of the symptoms of excessive smoking is largely a matter of observation. Experiment and pharmacological data are generally favored by most scientific men as furnishing the means of an impartial investigation and judgment, yet it is obvious that, medicine not being an exact science, the inferences to be drawn from so many different factors are capable of great abuse in the hands of clever reasoners who have some favorite hypothesis to maintain. It is, therefore, not surprising that the most recent pharmacological studies have supplied comparatively little that is new, and their results may be reduced to two simple propositions, namely, that nicotine generally raises the blood pressure. As a corollary to these it is stated that smoking raises the blood pressure.

Having reached this point we are at once in a world of pure assumptions. Thus it is assumed that a rise of blood pressure must be injurious, since it is one of the causes of arteriosclerosis. As a matter of fact, smoking does not invariably produce a rise of blood pressure; in many cases, on the contrary, it causes a fall. Competent observers, like Lee, have noted both, but there seems to be no certain method of accounting for the difference. In animal experiments, where tobacco smoke is drawn through salt solution or acetic acid, and injected into the veins, there is generally a rise of pressure; the mere physical effect of injecting a small volume of liquid is likely to increase the tension within the vessels. On the other hand, when the blood pressure is taken before and after smoking, the effect is variable; it may be a rise or fall. In explanation it is said that the effect is largely a matter of temperament or psychological, or some unknown factor, the kidneys, heart, or nervous system, may occasion the difference.

It is remarkable that few writers have even alluded to the *factor of fatigue*, or stated that a depressed condition of the muscles and nerve cells may modify an effect by no means constant under any conditions. It is true that the question has been asked, chiefly by French physicians, whether smoking is the cause of fatigue sometimes complained of by smokers? The answers to this question have been as varied as the effects of smoking itself. Putting aside the opinions of older writers—for example, Joly, Huchard, and Carnot—it is worth while to introduce here the practical observation on vast numbers of soldiers that smoking dispelled the crushing fatigue and depression known as "cafard," a form of exhaustion due to forced marches, digging trenches, sleeplessness, and other hardships of military life. In these circumstances tobacco had a bracing influence akin to that of food.

An effect somewhat similar has been observed in the case of workmen engaged in the heaviest kind of manual labor. In the complete absence of experimental data to explain the result, the best way seems to be that pointed out in the *Lancet* of July 17. "The question of labor efficiency in relation to tobacco smoking has been revived in a prominent fashion by the increasing practice of smoking in the workshops. It seems clear that in many cases the practice is tolerated by authority, and the anti-tobacco pro-

tagonists may be expected to put forward their case against this innovation, based on the ills to which it may give rise, when the evils of nicotine will be emphasized. But when all is said we must face the fact that those who have acquired the habit of smoking are more contented when permitted to indulge in it and are irritable when it is prohibited. Today the psychology of the worker is rightly receiving more and more attention, and a real and strong case must exist before anything which promotes contentment is prohibited. Smoking on an empty stomach,—for example, before breakfast and more than three hours after the last meal—seems to be felt injuriously by many subjects, while smokers generally appear to hold that smoking directly after meals promotes digestion; the belief is widespread and calls for consideration. The custom now rapidly increasing in industrial work of introducing short mid-morning and mid-afternoon pauses, during which light refreshment goes around—a practice recommended as long ago as 1861 by medical men—provides reasonable opportunities for allowing smoking. Cases have been quoted of increased output following permission to smoke; but we are not aware of any data of scientific value to justify or contradict this claim. The question, which is not without importance, calls for investigation, and we suggest, is worth the attention of the Industrial Fatigue Research Board."

This is one of the first attempts to study smoking from the industrial fatigue point of view. Some progress has been made in this direction by the authors of scientific management in workshops. It is admittedly a difficult problem of the day. To study the influences which affect the power of voluntary muscular work is to study the conditions which affect the activity of the mechanism, by which alone, man is able to express his thoughts and accomplish his purposes. Though the life of every man is largely devoted to an unconscious consideration of these problems we have still much to learn. The investigation is hampered by the multiplicity of the influences, and by the contradictory evidence given by men of different physique. One man is chiefly affected by changes in the weather; his neighbor, who is less sensitive to these changes, laughs at his conclusions, and, having a poor digestion, ascribes all to the effect of food. One man cites that a cigar helps him in his work, another feels from experience that a pipe or cigarette is more beneficial. As long as the answer to such questions rests on the slender basis of individual impressions and feelings, the uncertainty must continue.

With respect to industrial fatigue, the Italian physiologists, Mosso and Maggiora, observed that it was produced much more quickly in stormy weather. Lombard also found that the effects of smoking had an unfavorable influence on output during high temperature with much humidity. The individual unconsciously feels this effect, and is inclined to attribute it to tobacco. The relation of these factors to labor efficiency is still somewhat obscure, but the truth remains that smoking is only a contributory factor in fatigue. Moreover, in these experiments showing a loss of voluntary muscular power after smoking, recovery was always rapid, a fact which has led these authors to lay great stress on the periodicity of the fatigue. It might be argued from this periodical onset and the subsequent quick recovery of muscular power that tobacco was a means of muscular rest through its depressing or sedative action on the central nervous system.

In experiments of this kind on individual physiologists, not free from the influence of suggestion by their own consciousness, the conditions are wholly different from industrial fatigue, which, of course, is not voluntary. In fact, the worker's fatigue presents an entire contrast to the artificial conditions of the laboratory. In his case both mental and muscular work lessen muscular power. It is at this stage that he takes up his pipe or cigarette, that is to say, he is experiencing the action of smoking on muscles already tired, and not upon fresh muscles. The actual seat of the fatigue is a matter of primary importance, yet it has never been fully explained. The mechanism involved may be the muscles, or the nerve end-plates of the motor nerves, or the corresponding cells and fibres within the cord, or the nervous mechanism in the brain upon the activity of which the development of the muscular impulse depends. Experiment has shown, that, at the time when the voluntary muscular action is impossible, the muscles are still able to contract, to do enforced work, in short. Tobacco by its effect in preventing untimely and excessive muscular action, produces a state of repose. Again the nervous system may fatigue independently of the muscles. Hence, as tobacco acts almost wholly upon the

nerves, it is reasonable to conjecture that the craving for its effects is unconsciously due to the need of the nervous system for rest. The actual cause of these effects, as most men seem dimly to perceive, lies in its depressing action exercised at the moment of fatigue. Translated into the language of ordinary life, this means the soothing, sedative action of tobacco, which all smokers know, though they are unable to account for it.

In the meantime, as the *Lancet* points out, the relation of smoking and labor efficiency requires further investigation. And the starting point of these investigations seems to be the actual conditions of the worker's life. Theoretical considerations such as Lombard's, on voluntary muscular action are of little use.

The difficult nature of the investigation may be seen from the recent work of Baumberger and Martin, "Fatigue and Efficiency of Smokers in a Strenuous Mental Occupation." They describe the "output" of a small group of Morse code telegraph operators, and conclude from data, which they call "meagre," that the output of heavy smokers is at first greater than that of moderate smokers, but that heavy smokers fail to maintain this lead. On the other hand, they state that, "On the whole, they (the data) constitute an argument in favor of moderation in the use of tobacco on the part of the industrial workers." The conclusion seems to be in accord with the *Lancet* suggestion.

With respect to the composition of tobacco smoke, no two chemists appear to get the same result. Chemical analysis, as R. Kissling has pointed out in a recent review in the *Chemiker Zeitung* (April 6, 1920), chemical analysis is not sufficient to explain the effects of smoking. A very comprehensive series of investigations is, therefore, necessary, and it is to be hoped that these will soon be forthcoming.

PAUL BARTHOLOW.

MATERNITY AID.

THE Massachusetts Medical Society has a resident membership of 3560. The Commission for the Investigation of the question of Maternity Benefits sent to each Fellow of the Society, a *questionnaire*, with the request for coöperation. The questions embodied the different proposals upon which the Commission was instructed to report its findings to the Legislature. Answers have been received from 959 Fellows. Of these 176 declined to express any opinion. Of the 783 who have given the Commission the benefit of their opinions, 540 favor and 243 oppose giving state aid in some form or other to childbearing women.

Owing to various transfers of membership from one district to another and to the delay in publishing the local directory, there may be some small inaccuracy in the following tabulation of the vote, but it serves to show the extent of interest taken in the subject, in proportion to the membership, in the different districts.

	Total Membership	Favor	Oppose
Barnstable District	31	3	3
Berkshire District	83	13	5
Bristol North District ..	66	10	4
Bristol South District ..	138	14	17
Essex North District ..	175	27	11
Essex South District ...	228	25	13
Franklin District	40	5	2
Hampden District	235	35	9
Hampshire District	60	12	6
Middlesex East District .	77	14	13
Middlesex North District	108	22	6
Middlesex South District	511	88	38
Norfolk District	527	86	28
Norfolk South District ..	75	6	7
Plymouth District	107	12	16
Suffolk District	719	106	40
Worcester District	304	51	13
Worcester North District	88	10	12

In addition to these answers to the *questionnaire*, the Commission has been favored with the votes taken at several of the district society meetings, where the subject has been given more or less attention. According, very probably, to the way the question was presented, some have favored and some have opposed state action in the matter. But as only a small minority of the district membership, presumably, was present at these meetings, and furthermore, as contrary opinions were received from Fellows of these districts who were not present, it can easily be seen that the answers to the *questionnaire* ought to have greater weight in determining the attitude of the profession.

Many of the answers have included cogent reasons for favoring or opposing the various proposed ways of granting state aid. These have greatly helped the Commission in reaching the conclusions that will be presented to the Legislature. And it is regrettable that only so small a minority (less than 22%) of the Fellows of the Massachusetts Medical Society should have given their coöperation.

When the Legislature, instead of passing bills

that would so seriously affect the practice of medicine, refers them and the whole subject of maternity benefits to a special commission for investigation, and when the Governor honors the Massachusetts Medical Society by appointing its president as chairman of the commission, it certainly would seem both a civic and a professional duty resting upon all the Fellows of the Society to give every possible assistance.

Had it been possible for me to be present at all of the district meetings and, when present, had there been time for full discussion of the question, there would doubtless have been a larger response to our request for the opinions of the profession. This failure has led to my suggestion that the district societies shall hold joint meetings in groups at least once a year, and on different dates, so that the officers of the parent society may have the opportunity to consult with all the Fellows upon matters requiring immediate and concerted action.

Alfred Worcester.

MEDICAL NOTES.

Appointment of Dr. Lewis Fetzer.—In order to take charge of the laboratories of St. Paul Sanitarium at Dallas, Texas, Dr. Lewis W. Fetzer has resigned as professor of physiology and pharmacology at the Baylor University College of Medicine.

BOSTON AND MASSACHUSETTS.

The Instructive District Nursing Association.—The Instructive District Nursing Association of Boston provides for sick persons in need of nursing care, trained nurses, who visit the homes of the patients, care for the sick, and teach families some of the simple rules of nursing and hygiene. Every call for assistance is met with the response of a nurse, although she continues caring for the patient only if a doctor is in attendance. Perhaps one of the most valuable services of the Association is the care taken of pregnant women; maternity patients are visited periodically before confinement and after delivery. A study of statistics comparing mothers who had pregnancy care with those who had not has shown that in 1919 the infant death rate was lowered sixty per cent. because this care was given. In Wards 1, 2, 3, 4, 25 and 26 of the City of Boston nurses are available to be present with the doctors at the time of confinement. In cases in which it is considered inadvisable by the doctor to send a patient to a hospital, or when a patient is not in a condition of chronic illness or will not require more than three days of continuous nursing, the Association furnishes special nurses for constant day or night service. In every ward of Boston the service of a visiting nurse is offered by the Association, and the staff of graduate public health nurses is at the call of any doctor or of any patient.

The thirty-fourth annual report of the Association, for the year 1919, shows a reduction of 5,557 patients over the preceding year, with, however, only 1,507 fewer visits paid. The greater part of the service rendered by the visiting nurses is in bedside care of the sick. Three new stations during 1919 has added fourteen during the year,—at Field's Corner, Blue Hill avenue, and at 359 Hanover street in the North End. In order to distribute calls more economically, the Association office in Bulfinch Place Church was discontinued, and the nurses transferred to the Health Unit at Blossom street and to the Hanover street station. The opening of new stations during 1919 has added fourteen nurses to the staff, now including one hundred and twenty-five nurses. The increase in new cases of influenza and pneumonia, in January and February, 1920, involving 14,827 visits, was the most difficult experience of the year. The Association was made the official home nursing agency for the city, and was assisted greatly by the Metropolitan Chapter of the Red Cross, and by public health nurses from the public schools, the out-patient department of the Boston Consumptives' Hospital, the Baby Hygiene Association, and the Board of Health. Under the leadership of Dr. Woodward, an Influenza Emergency Committee was formed and a plan of organization completed.

A total number of 26,789 patients, 23,582 of whom were new patients, were under the care of the Instructive District Nursing Association during 1919. Nursing visits, visits to pregnant women and babies, and other visits made a total number of 247,268 visits made by the nurses of the Association. In addition to its general home nursing service, the Association furnishes, for the benefit of Boston babies, nurses to give instruction to pregnant women, to be present

at the time of confinement, to visit and care for mothers for ten days after delivery, to give clinical supervision to babies, and to follow the progress of younger children until they reach school age.

WEEK'S DEATH RATE IN BOSTON.—During the week ending November 6, 1920, the number of deaths reported was 184 against 186 last year, with a rate of 12.82* against 12.18 last year. There were 22 deaths under one year of age against 36 last year.

The number of cases of principal reportable diseases were: Diphtheria, 41; scarlet fever, 24; measles, 7; whooping cough, 17; typhoid fever, 2; tuberculosis, 41. Included in the above were the following cases of non-residents: Diphtheria, 5; scarlet fever, 3; typhoid fever, 1; tuberculosis, 12.

The total deaths from these diseases were: Scarlet fever, 2; typhoid fever, 1; tuberculosis, 12. Included in the above were the following non-residents: Tuberculosis, 3.

There were 2 cases of anterior poliomyelitis, with no deaths.

ANNUAL HEALTH REPORT OF HAVERHILL.—The fortieth annual report of the Health Department of Haverhill for the year 1919, records the lowest mortality rate in the history of the city. The total number of deaths was 712, which gives a rate of 13.19 per 1,000 of population, and the average age of decedents was 42 years and 5 months. The previous lowest rate was 13.75 in 1915. A review of the mortality statistics since they were first compiled in 1880 shows that the average death rate for the past forty years was 16.13 per 1,000 of population. The new rate of 13.19 is the more remarkable when it is considered that during January and February, 1919, there were 155 deaths from influenza and pneumonia. The leading causes of death included the following diseases: arterial diseases, 85 deaths; organic diseases of the heart, 61; tuberculosis of the lungs, 54; influenza, 53; acute nephritis, Bright's disease, 33; pneumonia, all forms, and cancer, 29. For several years, chronic diseases have been becoming the more prominent causes of death, with infantile diarrhea and other acute diseases exceeded by heart, arterial, and other diseases. The infant mortality rate for the past year was 1.57 per 1,000 population, with 90 deaths; 43 of the deaths occurred among infants less than a month old. The total number of communicable diseases reported during 1919 was 2,499, with 184 deaths, as compared with 5,506 cases and 426 deaths in the previous year. Influenza and pneumonia have been the cause of a large increase in mortality during the past two years. In 1919 there were 14 deaths due to diphtheria; the histories of these cases show that parents still fail to heed or profit by the frequent recommendations of the Health Department in looking after the welfare of their children by calling a physician whenever they first show symptoms of illness. Twenty-one cases of typhoid fever were reported during the year, twelve of which were contracted in other places. There were reported 150 cases of tuberculosis, with 60 deaths.

An increase in the number of visiting nurses has made possible the extension of health supervision in the public schools of Haverhill. The Board of Health hopes that during the present year its activities in preventive medical work may be extended, and that clinics may be established both for the treatment of venereal patients and for the care and supervision of pregnant women.

The Haverhill Sanatorium cared for a total number of 104 patients during 1919, of whom five were in the incipient stage of tuberculosis, 22 moderately advanced, 61 markedly advanced, and 9 non-tuberculous.

* Estimated on the 1920 Federal census.

NEW ENGLAND NOTES.

REPORT OF THE BOARD OF HEALTH OF PORTLAND, MAINE.—The thirty-third annual report of the Board of Health of Portland, Maine, for the year 1919-1920, records, with the possible exception of the year 1917, the lowest death rate the city has experienced, in spite of the fact that the epidemic of influenza was practically at its height at the beginning of the year. For an estimated population of 68,718 there were 1,054 deaths from all causes, including deaths of non-residents, giving a rate of 15.3 per thousand. The birth-rate per one thousand population was 21.8. Typhoid fever caused 6 deaths, whooping cough, 11; diphtheria, 5; pulmonary tuberculosis, 59; cancer, 99; cerebral hemorrhage, 84; organic diseases of the heart, 115; influenza and pneumonia, 127; diarrhea and enteritis of infants under two years of age, 22. There were

no deaths reported from scarlet fever or measles. The isolation hospital received during the year two diphtheria and 64 scarlet fever cases.

At the beginning of 1919 three nurses were in the employ of the Board of Health. These were kept busy attending cases of influenza during the first two months, after which they again took up anti-tuberculosis work and venereal disease control in the field and at the tuberculosis and venereal disease clinics conducted at the Edward Mason Dispensary. Responding to a strong local sentiment, the appropriation for the Board of Health was increased to permit additional nurses being engaged and a beginning made in child welfare work in the schools and at the home, as well as general instructive public health nursing. In co-operation with the principals and teachers practically every school up to and including the grammar grades is now being visited by a nurse from the health department. By carefully following up cases with home visits, repeated as often as may be necessary, a great many children have been taken to the family physician or referred to some appropriate clinic, either the Maine Eye and Ear Infirmary, the Children's Hospital or the Edward Mason Dispensary. At the Edward Mason Dispensary alone the year's attendance, including return visits to all clinics, was 9,551, an unprecedented number, and the increased attendance in large part composed of children.

Splendid work is being done by the Portland Baby Hygiene and Child Welfare Association at its milk station and clinic, at its station for under-nourished children and at its Day Nursery. During 1919 there were registered at the Milk Station 300 new babies, making a total registration of 407, with a clinic attendance of 1,695 for the year. Twenty-eight thousand, one hundred and seventy-two food formulae were put up by the nurses and distributed from the Milk Station. The Association engaged in two more child welfare activities during the year, namely, a day nursery, where for a small charge a working mother may have her children cared for during the working hours, and a milk station for under-nourished children up to twelve or thirteen years of age. There were 135 deaths of children under one year, an infant mortality rate of 90 per thousand births. Of these infant deaths, 37 per cent. occurred during the first week and 43 per cent. occurred in the first two weeks.

There were reported 62 stillbirths during the year. It is probable that a number of these, as well as many of the infant deaths due to congenital causes, might have been prevented by judicious care of the mothers during pregnancy. It is hoped that the Board of Health will be able to undertake this work through its public health nursing service in coöperation with existing clinics. There is need also, in Portland, of a free maternity hospital or ward, where skilled attendance can be given to those unable to pay for medical care.

Obituary.

FREDERIC HENRY GERRISH, M.D.

PORTLAND, MAINE (1845-1920).

DR. GERRISH, a leader in medicine in Maine and in the United States, departed from the scenes of his labors on Wednesday, the eighth of September, 1920, at the age of 75, and after more than fifty years of practice. He was born in Portland March 21, 1845, and in his native city he died after ceaseless efforts for the advancement of medicine. From his father, Oliver Gerrish, a watchmaker and jeweller, he inherited that accuracy of detail which was his chief characteristic, and from his mother, Sarah Little, he inherited a love for anatomy, as evidenced in the career of Dr. Timothy Little, a great-uncle, who was an ardent anatomist a century ago, the man who when Nathan Smith started the Bowdoin Medical School in 1820, contributed largely to that institution from his rare preparations.

As a boy, young Gerrish began to be accurate in everything, and most of all, in his penmanship. Starting off with a large, round easily decipherable copper-plate handwriting, he continued it for life, making it rather smaller as years went on, and larger again as his eyes began to weary. No letter written by Dr. Gerrish contained a single word which could not be easily read, and better still, no prescription of his ever failed to be as plain as daylight to the patient, and to the druggist.

So, too, in school, he learned to draw, and this accomplishment although never carried through to artistic perfection, enabled him to enlighten his students and delight his friends; for, when lecturing on anatomy, if he came to

a knotty point, he would turn to the blackboard and make plainer by sketch what he may have failed to make understood by merely illustrative words. Beyond this, he would charm his friends with pen drawings in the form of menu cards at medical banquets, the guests on taking their seats finding at hand a card with a sketch suggestive of their predilections. The professor of therapeutics would gaze at a shelf of bottles labelled with his favorite remedies; the surgeon would see himself sawing off a remnant of a femur; and the ophthalmologist would smile at a man holding over his shoulder a delicately drawn ophthalmoscope.

Dr. Gerrish was educated in the public schools of Portland, entered Bowdoin with a high examination rank, and was graduated with Phi Beta Kappa rank in the class of 1866.

He had always expressed his intention to be a physician and into the study of medicine he plunged eagerly for the next three years, and obtained his diploma in 1869. He neglected no branch, but gave most of his attention to anatomy; surgery found him a most zealous student and his graduating thesis, "The Caesarean Section," proved that his knowledge of that topic was practical. He settled then for practice in Portland, and gradually worked into a remunerative clientage. He was correct in diagnosis, and in expressing an opinion, but he never was too blunt to forget to be humorous in his way of putting difficult conditions before his patients. At this time he was made a teacher in the "Portland School for Medical Instruction," his work embracing various branches of medicine.

In 1873 he received a flattering call to the chair of therapeutics and materia medica from the medical school of the University of Michigan. This he accepted and filled satisfactorily for two years, after which he resigned owing to interruptions to his practice and was called to a similar position in the Bowdoin Medical School. He filled the position for three years, was then promoted to the chair of anatomy, which he occupied for twenty years, thence he went forward to the professorship of surgery, which he held many years, and finally was professor of medical ethics and so rounded out some forty-four years of fruitful activity in this institution.

As a lecturer he was inspiring. All of his students emphasize this. He loved his topics and inspired his students to love them so far as their mentality would allow. His language was easy to understand. He looked now at this man and now at that, and in so doing he attracted the interest of all. And, as has already been said, when language seemed to fail he would use his own hand-drawn illustrations. His arresting presence, his undoubted interest in what he had to say, and his graphic descriptions characterized his teaching throughout his long career. Mention may here be made of his original idea of coöperating with the other teachers, so that when he knew that the lecturer on physiology or on therapeutics was soon to speak on the physiology of the circulation, or the cardiac remedies, Dr. Gerrish would precede them with talks on the anatomy of the heart in its muscular and nervous details. In this way, the instructors and the students worked together, and worked ahead instead of some standing still and waiting for the others to catch up with their allied topics.

His brochure on the "Writing of Prescriptions for Students Unfamiliar with Latin," proved of great value to medical education everywhere, and his delightful address on the "Medical Dictionary," must be read to be appreciated and to understand how in the hands of a master at composition, so dull a theme, apparently, can be made attractive.

United with these forty years of teaching, were forty other years of intimate connection with the Maine General Hospital. He was secretary of the board of management for nine years, pathologist, overlapping those other years, for five more; and intermingled with these were twelve years as surgeon, twenty as consulting surgeon, and director for the last eleven years of his life. In other words, his was a guiding hand for all that time. Whatever of good the hospital did in those years for Maine, was largely due to his influence: in reducing the mortality by the introduction of Listerism; by constant attendance at the meetings of the staff and of the directors and by kindly courtesy and sympathy for all who sought the supreme gift of health from this noble institution. Nor should his efforts for a high standard of nursing be forgotten, for no nurse should waste her energies in mere housekeeping, nor on the other hand should she become so learned as to dispute with the physician concerning the care of the patients.

As an anatomist Dr. Gerrish will long be remembered not only by his teachings at Bowdoin, but by his classical textbook. It seemed wise to a group of American anatomists about 1890, that an American Anatomy should be founded, and Dr. Gerrish was chosen as its editor. Gathering about him a competent staff, they produced the desired work. Many of the illustrations were from French authorities, but those of the lymphatics and a large number of unique drawings of the insertions of the muscles were made by Dr. Gerrish. Two-thirds of the text also came from his pen, well expressed in plain phraseology. The work had a noteworthy reception, and an extensive sale and is still widely consulted. All in all, it is the chief monument to its editor and is likely long to continue as a trustworthy textbook. Finally, a paper on "Anatomical Nomenclature" about this time was of stirring scientific interest and revealed a careful knowledge of the need for greater accuracy in the names of many of the component parts of the human frame.

Dr. Gerrish was an excellent operator. He may have seemed at times slow and methodical, but such a fault, if really existing, probably arose from his early habits of speaking during operations for the benefit of students or practitioners. It seemed at times as if he were saying, "I incise here as the point of election; this incision must be carefully short; here I call attention to the exact anatomy of the parts"; and so on. His extreme accuracy in placing the sutures just so far apart, and of taking in just so much tissue, tended to produce firm apposition and a smooth cicatrix. He was a pioneer in Maine, in hysterectomy, appendectomy, and prostatectomy, and invariably contributed to the impetuous march of surgery of the day. Some of us can still recall a post-mortem examination which he made long ago in the case of a student who had died from "typhlitis," as appendicitis was then entitled. As he called attention to one point after another he said as he finally lifted the gangrenous appendix: "Some time, and that before long, we shall be removing the appendix by an early operation and so save many lives"; prophetic words indeed.

As a surgical writer also, he stood so high in the esteem of his contemporaries that he was invited to contribute papers on lymphatic surgery to the "Systems," of Keen, Dennis and Park. These monographs were valuable additions to the textbooks mentioned.

No notice of the career of Dr. Gerrish would be complete which failed to emphasize his early cultivation of Listerism. He utilized the new idea at once in hospital and private practice, and he was proud of his first series of twelve cancerous breasts about which, first and last, there was never visible a drop of pus nor in these cases did the temperature ever rise above ninety-nine. Not satisfied with this proof of the value of antiseptic surgery, he operated on one leg of a man with varicose veins by the Lister method and on the other leg, similarly affected, by ordinary methods and then showed the students the difference: the antiseptic leg was free of bandages in one week, whilst the other had to be treated for six, before the patient could be discharged.

Animated by such results as these he obtained from France the treatise of Lucas-Championnière on "Aseptic Surgery," translated and published it and when read, even today, it reveals the leadership of its translator in antiseptic surgery in the United States.

Thousands of physicians belong to innumerable societies, but most of these men are and remain lay figures on the lists of members. They may attend meetings, but they seldom contribute or discuss papers. With Dr. Gerrish it was different: he belonged to a society for the purpose of spreading abroad his views with the result that in most of the societies which he joined he ultimately became president.

He began his career in the Maine Medical Association with a modest paper on the microscope, and one on salicylic acid. After those he set out on his campaign for public health: for better sanitary conditions in Portland; a State Board of Health; an an anatomical law. As to the dangers of the venereal peril, to him belong the honors of the successful national crusade at last crowned with success after many years—he began it.

His paper on "Compensation of Physicians" in comparison with the princely incomes of lawyers and merchants was masterly. He early advocated the "Metrical System" and saw it largely adopted. His "oration" on the "Duties of the Medical Profession Toward Prostitution" was vigorous. Later on, turning back to surgical topics he wrote for the Association papers on prostatectomy, hysterectomy and appendectomy. He served on committees more than any other member and as chairman he was very successful in obtaining from obdurate leg-

islators the laws which he insisted upon and literally commanded them to make. His presidency was marked by an advanced public health policy; as a writer of brief biographies of deceased members no one has ever surpassed him.

He was for years a beacon light in the American Academy of Medicine, wrote for its meetings multifariously on "Medical Education, "Sociology," "The Venereal Peril," "Hypnotism," and "Psychotherapy," whilst his address as president on "On the Best Equipment for Medical Study" was remarkable.

Before the American Therapeutic Society, of which, too, he was president, he read papers on the "Relations between Physicians and Pharmacists," and a prophetic essay on "Legal Control Needed in the Treatment of Drug Addicts."

Amongst his papers contributed to the BOSTON MEDICAL AND SURGICAL JOURNAL notice should be taken of his extraordinary proposal of "The Use of Morphia Hypodermatically as a Substitute for Hanging," as well as other meritorious papers on "Urinary Calculi" and "Removal of the Uterus."

Bowdoin College owes much to him as an overseer for a series of years, and many recall the value and suggestions in his paper on the question, "Whether the Classes at Bowdoin Should be Large or Small," in which he favored smaller classes as easier to educate properly.

The Clinical Club was a society composed of twelve of the leading physicians of Portland and of this he was an active member, first and last. He was always present, and wrote his share of papers, amongst which may be included one on "The Capacity of the Bladder," a second on his favorite topic, "Prostatectomy," a third on "Public Health," a very remarkable essay on the "Hebrew Prophets," whom he considered psychotherapists, and a valuable pioneer paper on "Psychotherapy." To this particular essay, objection was made on the ground that medicine was medicine, and that the treatment of diseases by any other means was foolish. Dr. Gerrish, however, had his way and we now see how far in advance he was of his times. Of the delightful conversational powers, occasional verses, witty stories and amusing epithets exhibited by Dr. Gerrish at the supper following the reading of the papers at the Clinical, only a hint can be given.

The Fraternity Club was established in Portland forty years ago, Dr. Gerrish being one of the founders. Its ideal was a gathering together of men of wit, knowledge and literary ability, and the reading of papers calculated to bring out discussions. The papers of Dr. Gerrish for the Fraternity were always looked forward to with pleasure, for the members knew that something good was sure to be heard. His idea was to present to citizens of Portland medical papers that might be of value to the state. For this purpose he chose such topics as the "Need of Trained Nurses," "Marriage and Divorce," "Boards of Public Health," "The Mind Cure," "The Good of Insanity," "Animal Parasites of Man," "Cremation," and "Legalized Suicide of the Hopelessly Incurable."

Psychotherapy interested him from its first mention by Charcot, and he was the first to adopt it in Maine. He believed in it, his patients believed in him, and under its influence many people were made happy and relieved of suffering. So too, late in life, we have to recall the fact that he wrote for a "Symposium," on this topic a charming essay explaining its value in certain cases of nervous disease.

It may be said, in closing, that he was also much attracted to the question of "Sex Hygiene" and wrote a pamphlet concerning it, late in life. In it he called a spade a spade, but his English was so clean that the spade was never dirty. Toward the end of his life he was rather inclined to simplify spelling, but never urged others to adopt it.

He was a master of evanescent wit. His talk sparkled with touches of humor. He was fond of telling stories and always made his point. In this respect he was a past master. It is sad to hear people talk of his wonderful repartee, and yet when you ask them what he said they cannot remember a single word. Ears have they, yet they hear not: yet even a deaf man can recall this little gem!

A member of the Clinical Club who was rather proud of his papers with amusing contents, met Dr. Gerrish one morning on the day for the meeting of the Club and said jokingly to him, "Well, Gerrish, what sort of a paper are you looking for from me this evening?" "Delicatessen," flashed back Dr. Gerrish and walked off with a smile.

A man, by no means wise, came one evening to pick a quarrel with Dr. Gerrish if he could,

and began in this way: "I hear that you said that I was not as wise as Solomon," and instantaneously Dr. Gerrish disarmed him by saying, "Well, are you?" The man had never a word to say and walked silently away.

He loved Malapropisms and in his letters he would pass them along. At a time when women wore long coats called ulsters, a woman complained to him of an "ulster" in her throat. "Yes," said he, "I understand, a sort of heavy coating." A male uurse at the hospital reported to him that a "patient's accounts of his sufferings were heartrendering." "Yes," said the doctor, "what you might call Trying."

He was always sympathetic. He took, for instance, much trouble to put together for a patient with very bad eyes, a writing table with wires across by means of which the patient could write without using her eyes at all, and made her a present of it.

It happened once upon a time that a physician went West with his only son, leaving his wife to settle affairs and to follow on. One morning as the train with father and son was flying across the prairies, the boy, flushed by his first journey and the importance of youth, set off for the dining car ahead of his father. That car he never reached, for as he passed from one to another of the unvestibuled cars, he was blown off to instant death. The shocking news was sent first to friends in Portland and after much debate, Dr. Gerrish was asked to break to the mother the dreadful news. This he successfully accomplished and as the mother later said, "No other living man could have brought me so sympathetically that awful news, or have afterward so unselfishly comforted me in my hour of anguish."

Here then in broad outlines we note the career of a man remarkable in medicine. Much more might have been said, a larger number of papers might have been mentioned and analyzed, but enough have been chosen to give some idea of the great work which he accomplished. From many points of view he was a pioneer in public health. Views scoffed at when he first advanced them forty years ago are now a matter of daily benefit to the people.

Dr. Gerrish was married December 31, 1879, to Emily Manning Swan of Portland, who aided him graciously and steadily in his medical labors, and who now survives him.

J. A. S.

Correspondence.

PHYSICIANS AND LEGISLATION.

Worcester, November 1, 1920.

Mr. Editor:—

The Jeremiad of Dr. John B. Hawes on the little influence medical men have on legislative proceedings and the pessimistic attitude taken by our honored President lead me, by instinct an optimist, to open my mouth at possibly some sacrifice of my modesty.

Do gentlemen expect to obtain legislative action without hard work?

Do they expect that everything that appeals to them as right is instantly to be accepted by the legislative mind, absorbed by the legislative brain, and enacted into law without reflection? If so, they expect more than they will ever get, far more than any other body of men will obtain, or ever did obtain, and when they state that medical opinion has no influence with those who legislate for us, that practically no laws have been passed in our own state through the efforts of our legislative committees and our physicians, I beg most emphatically to differ with them.

Let us remember that the measures which appeal most to us are almost invariably opposed by strong interests adversely affected by them. Let us remember that legislators cannot remain in the Legislature unless kept there by the votes of their constituents. Let us remember that by no means every proposed law succeeds or fails on its merits only, whether it has to do with the practice of medicine or is entirely foreign to it, that human nature is human nature, that physicians are not always absolutely unselfish in their desires, and we may have more kindly feelings toward those whom we select to legislate for us.

When Dr. Hawes, in the Council meeting a year ago, condemned the attitude of legislators toward physicians, I rose in my seat and stated—and I wish to state it again—that but once in three years had I met with the slightest discourtesy, that I could find no fault with the general attitude of the members of the Legislature toward me and the society I represented and that our relations were those usual between gentlemen.

Have we done nothing?

In one year—1916-17—we greatly strengthened the narcotic law, obtained the passage of the present medical registration law, which lifted Massachusetts from the level of Mississippi to the top of the list, amended the workmen's compensation law against the most violent opposition, defeated the antivaccinationists and antivivisectionists, and had much to do with preventing the introduction of compulsory health insurance.

Had we no influence that year?

It was no slight feat to overturn a law which had placed a paid Board of three men in the position formerly occupied by an unpaid Board of Insanity with its paid executive secretary. Pessimists said it was impossible, but it was done and done by physicians and nobody else.

It took two years' hard work to accomplish it, but it *was* done. If the medical profession makes up its mind that it can accomplish nothing, it is lost, but there is no reason for any such belief. It has, it can, and it will accomplish great things, obtain the enactment of good laws and kill bad ones, but it will not do it by telling its legislative committees that they never did anything and never can do anything, by pulling back in the traces and not trying to bear its share in the load. Ripe fruit rarely falls into the mouths of the waiting populace unless somebody shakes the tree, and it is not stimulating to the shaker to be told that the fruit is nailed on and cannot be loosened from the bough.

Let Dr. Stone, who ably conducted the affairs of the Legislative Committee last year, and who thinks he did nothing, be comforted. Rome was not built in a day. Not all Legislatures are alike. Men change and so do their opinions.

It was a great misfortune that the President was unable to attend to legislative matters during the winter, for the very presence of the President of the Massachusetts Medical Society before a legislative committee carries weight, and no substitute, however able, can, in my opinion, take his place.

The members of the Massachusetts Medical Society can confidently believe that their Legislative Committees *do* get results, and if they assist them when called on, as many of them do, did, and will, they will accomplish even more in the future than they have been able to in the past.

SAMUEL B. WOODWARD.

MATERNITY AID.

46 St. John St., Jamaica Plain, Mass.

Mr. Editor:—

From the standpoint of the general practitioner, Dr. Bowers' bill for maternity aid is a disappointment. Does Dr. Bowers know that the doctors of the state are now handling and have been handling their maternity cases among the poor for a small fee or no fee at all?

Here is a chance for the state to recompense the doctors for work of this kind, either directly or indirectly; yet a bill is brought forward to turn this work over to hospitals that have been particularly uncharitable to the poor pregnant woman. Outside of the maternity department of the Boston City Hospital (a department which is a godsend to the people of Boston), I do not know of any lying-in hospital which will take in a pregnant woman free. They make a great flourish of their charity, but demand cash in advance. These alleged charity lying-in hospitals, with specialists and investigators, will be the ones to benefit by a bill such as Dr. Bowers'.

There is a close parallel in the preliminary working of the Workmen's Compensation Act and the Maternity Relief. Previous to the passage of the Workmen's Compensation Act the general practitioner did most of the factory surgery for small, or very often, no recompense. When the doctor had to be paid for this kind of work great interest was taken in the injured workmen. All kinds of subterfuges were employed so that today most of this work is in the hands of trained nurses, acting through surgeons, (presumably to cover the law), dispensaries and the outpatient departments of the various hospitals.

The insurance companies of the United States and England come under the head of the "sick poor," with the high approval of the men who are supposed to look out for the interests of the profession.

If the doctors were represented by men who know how hard conditions are in the profession, in short, if doctors rather than specialists represented us before the Legislature, our interests would be pushed to the front.

If there is to be a maternity relief bill it seems to me that it should be primarily for the needy pregnant woman. What the poor woman needs most in her time of trouble is money.

From a long medical experience among the poor of the city, I would respectfully suggest to Dr. Worcester that each pregnant woman in need be given the sum of $50.00. It does not seem to me that it would be necessary to establish any separate division of the state to administer the aid. The work covers exactly the same ground as the "Mothers' Aid" and could be easily amalgamated with that department of the State Board of Charity—a department that is excellently and economically conducted. Under the care of the modern and well-equipped physicians of the state, these cases will be handled in a very much better way than if they were driven to hospitals. I am sure the mortality rate will be lower and the respect and gratitude of these women to the state will be enhanced as compared to Dr. Bowers' plan.

CHARLES MALONE, M.D.

INDUSTRIAL EXAMINATION OF CHILDREN.

Spencer, Mass., Nov. 1, 1920.

Mr. Editor:—

Kindly permit me to correct a statement in the issue of October 21, under "Medical Notes," page 500, subject: "Examination of Children for Industries," line seven reads, "In order to obtain a certificate, the child must present to the superintendent of the school a certificate signed by a physician appointed by the school committee."

The trend of the article seems to commend the placing of this most important work in the hands of one physician in each community. As a matter of fact, any registered physician may make these examinations and fill out these cards, as is shown by the following extract of the law, Chapter 779, Section 16, Acts of 1913, which provides as follows:

> "A certificate signed by a school or family physician or by a physician appointed by the school committee, stating that the child has been thoroughly examined by said physician and in his opinion is in sufficiently sound health and physically able to perform the work which the child intends to do."

In a certain town in this state, the fee for this service is fifty cents for each examination and the filling out of the card, payable only to the school physician. The five other phyicians in town fill out these cards, when requested to do so by the child, but receive no compensation for the same. It is simply an act of charity on their part. Is it any wonder that "an investigation of this matter has led to the discovery that in a great many cases certificates have been signed without any examination having been made, or that the examination has been so superficial as to be valueless"?

I have reason to believe that this condition of affairs is far from satisfactory to the Department of Labor and Industries of our state. There is no doubt in my mind that they have made a thorough investigation of the methods employed in the examination of children in nearly all the large industrial centers of our state and found that the appropriations made by local authorities for this important work were entirely inadequate. Furthermore, I believe that they learned at that time that thorough examinations were made in only a few communities.

Let us hope that the Legislature for 1921 will be requested to make some change in existing laws that will secure for the child an adequate and thorough examination before his entrance into industry.

GEORGE W. ELLISON, *School Physician*,
Town of Spencer.

RECENT DEATH.

DR. WALLACE HARLOW DEAN died at Springfield, Mass., April 10, 1920, at the age of 67. Dr. Dean was born in West Harland, Conn. He received a medical degree from Yale in 1877. He settled in Blanford, Mass., in 1877, and removed to Springfield in 1895. Dr. Dean was president of the Hampden District Medical Society from 1887 until his death. The cause of his death was lobar pneumonia.

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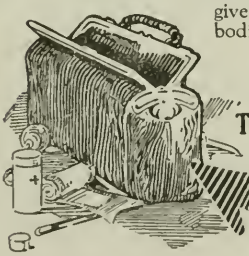

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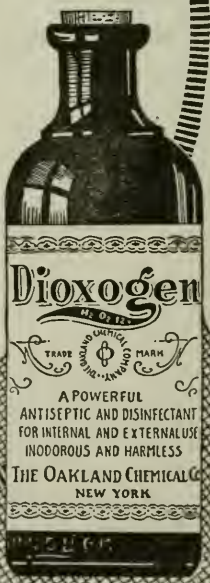

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